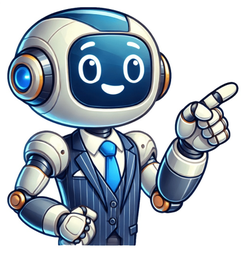
I'm not a robot



A Simple Random Sample (SRS) is a fundamental sampling technique used in statistics that ensures each member of a population has an equal chance of being selected. This method is crucial for obtaining unbiased and representative data, which is essential for accurate statistical analysis. By employing SRS, researchers can minimize sampling bias and enhance the validity of their findings. Ad description. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Importance of Simple Random SamplingThe importance of Simple Random Sampling lies in its ability to produce samples that are representative of the entire population. This method is particularly valuable in fields such as data analysis and data science, where the goal is to draw conclusions about a larger group based on a smaller subset. By ensuring that every individual has an equal opportunity to be included, SRS helps to maintain the integrity of the research process.How to Conduct a Simple Random SampleConducting a Simple Random Sample involves several key steps. First, define the population from which you want to draw your sample. Next, determine the sample size, which should be large enough to provide reliable results. Finally, use a random selection method, such as random number generators or lottery systems, to select individuals from the population. This process ensures that the sample is free from bias and accurately reflects the population.Random Number Generation in SRSRandom number generation plays a critical role in the implementation of Simple Random Sampling. Various techniques, including computer algorithms and physical methods like drawing lots, can be employed to achieve randomness. The use of random number generators is particularly common in data analysis, as they allow researchers to efficiently select samples from large datasets without introducing bias.Applications of Simple Random SamplingSimple Random Sampling is widely used across various fields, including social sciences, market research, and healthcare studies. In social sciences, researchers often use SRS to gather data on public opinions or behaviors. In market research, businesses utilize this method to understand consumer preferences. In healthcare, SRS is essential for clinical trials, ensuring that the sample population accurately represents the broader patient demographic. Ad description. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Advantages of Simple Random SamplingThe advantages of Simple Random Sampling include its simplicity and ease of implementation. Since each member of the population has an equal chance of selection, the method is straightforward and minimizes the risk of bias. Additionally, SRS allows for the application of statistical theory, enabling researchers to make inferences about the population based on the sample data.Limitations of Simple Random SamplingDespite its advantages, Simple Random Sampling has limitations. One significant drawback is that it may not be feasible for large populations, as it can be time-consuming and costly to implement. Furthermore, if the population is heterogeneous, SRS may not adequately capture the diversity within the group, potentially leading to misleading conclusions.Comparison with Other Sampling MethodsWhen comparing Simple Random Sampling to other sampling methods, such as stratified sampling or cluster sampling, it is essential to consider the context of the research. While SRS is effective for homogeneous populations, stratified sampling may be more appropriate for heterogeneous populations, as it ensures that specific subgroups are adequately represented. Understanding the strengths and weaknesses of each method is crucial for selecting the most appropriate sampling technique.Statistical Analysis of Simple Random SamplesThe statistical analysis of Simple Random Samples involves various techniques, including hypothesis testing and confidence interval estimation. Researchers can apply inferential statistics to draw conclusions about the population based on the sample data. The validity of these analyses relies heavily on the randomness of the sample, underscoring the importance of adhering to the principles of Simple Random Sampling.Conclusion on Simple Random SamplingIn summary, Simple Random Sampling is a vital technique in statistics and data analysis that facilitates unbiased data collection. By ensuring that every member of the population has an equal chance of selection, researchers can obtain reliable and valid results. Understanding the principles and applications of SRS is essential for anyone involved in data science and statistical research. Ad description. Lorem ipsum dolor sit amet, consectetur adipiscing elit. MethodAdvantagesLimitationsOther techniquesThis method is considered simple because its straightforward and implements a random process (like flipping a coin or drawing numbers from a hat) to select the sample.The random sampling method is one of the simplest and most common forms of collecting data, as it provides an unbiased representation of a group. The random subset of selected individuals represents an entire data set.The goal of simple random sampling is to create a manageable, balanced subset of individuals that is representative of a larger group that would otherwise be too challenging to sample.ExampleFor example, if you wanted to conduct a survey about food preferences in a school of 1000 students, and you wanted to sample 100 students.You could use simple random sampling by assigning each student a number from 1 to 1000, then using a random number generator to pick 100 numbers.The students assigned those numbers would be the ones you survey.MethodFirst, choose the target population that you wish to study and determine your desired sample size. The smaller the sample size the less likely, it can be generalized to the wider research population and is unlikely to be fully representative.The list of the people from which the sample is drawn is called the sampling frame. Examples of sampling frames include the electoral register, schools, drug addicts, etc.).Then, assign a sequential number to each subject in the sampling frame.Next, individuals are selected using an unbiased selection method. Some examples of simple random sampling techniques include lotteries, random computer number generators, or random draws.AdvantagesMinimizes BiasIt is the least biased sampling method, as every member of the target population has an equal chance of being chosen. The purpose of simple random sampling is to give each individual an equal chance of being chosen.This is meant to represent a group that is free from researcher bias. Like any sampling technique, there is room for error, but this method is intended to be an unbiased approach.RepresentativenessRandom sampling ensures that every member of the target population has an equal chance of being selected. This helps to ensure that the sample is representative of the population, making it more likely that the findings can be generalized to the entire population.LimitationsExpensive and time-consumingIt is a very expensive and time-consuming method; it is difficult to get the name of every member of the target population, especially if it is a very large population, so it is rarely used.Access to respondentsThis is actually quite hard to achieve especially if the parent population is large. Since the participants do not volunteer to participate, it can be challenging for researchers to gain access to respondents when drawing from a large population.Sampling errorSampling errors can occur when the sample does not accurately represent the population as a whole. If this occurs, the researcher would need to restart the sampling process.Other techniquesThere are four types of random sampling techniques (simple, stratified, cluster, and systematic random sampling.Stratified Random SamplingIn stratified random sampling, researchers will first divide a population into subgroups, or strata, based on shared characteristics and then randomly select among these groups.This method is typically used when a population has distinct differences, such as demographics, level of education, or age, and can easily be broken into subgroups.Cluster Random SamplingSimilar to stratified random sampling, cluster random sampling begins by dividing a population into smaller groups.However, in cluster sampling, researchers use naturally formed groups to divide a large population up into clusters and then select randomly among the clusters to form the sample.Examples of these pre-existing groups could include school districts, city blocks, or households.Systematic Random SamplingSystematic random sampling involves taking random samples at regular periodic intervals.For example, if you were conducting a survey in a cafeteria, you could give a survey to every sixth customer that comes into the cafeteria.A sample is the participants you select from a target population (the group you are interested in) to make generalizations about. As an entire population tends to be too large to work with, a smaller group of participants must act as a representative sample. Representative means the extent to which a sample mirrors a researchers target population and reflects its characteristics (e.g., gender, ethnicity, socioeconomic level). In an attempt to select a representative sample and avoid sampling bias (the over-representation of one category of participant in the sample), psychologists utilize various sampling methods. Generalisability means the extent to which their findings can be applied to the larger population of which their sample was a part.ReferencesHayes, A. (2021). Simple Random Sample. Investopedia. Retrieved from random sample: Definition and examples. Statistics How To. (n.d.). Retrieved from random sampling: Definition, examples, and how to do it. Qualtrics. (2022). Retrieved from nce-management/research/simple-random-sampling/ Saul McLeod, PhD BSc (Hons) Psychology, MRes, PhD, University of Manchester Editor-in-Chief for Simply Psychology Saul McLeod, PhD., is a qualified psychology teacher with over 18 years of experience in further and higher education. He has been published in peer-reviewed journals, including the Journal of Clinical Psychology. Olivia Guy-Evans, MSc BSc (Hons) Psychology, MSc Psychology of Education Associate Editor for Simply Psychology Olivia Guy-Evans is a writer and associate editor for Simply Psychology. She has previously worked in healthcare and educational sectors. Julia Simkus Editor at Simply Psychology BA (Hons) Psychology, Princeton University Julia Simkus is a graduate of Princeton University with a Bachelor of Arts in Psychology. She is currently studying for a Master's Degree in Counseling for Mental Health and Wellness in September 2023. Julia's research has been published in peer reviewed journals. Statistics is all about collecting, analyzing, interpreting, and presenting data. Whether you realize it or not, you use statistics every day, whether its analyzing sports scores, calculating your average grade in school, or even understanding how weather predictions work. In this blog, well explore the basic concepts of statistics, breaking them down into simple terms with examples to help you understand them better.Statistics is the branch of mathematics that deals with the collection, analysis, interpretation, and presentation of data. In simple terms, its about understanding data meaningfully. For instance, when we say, The average score of the class on the last test was 85%, we are using statistics. Statistics plays an important role in many fields, such as:Education: To analyze student performance.Healthcare: To track the spread of diseases or the effectiveness of treatments.Sports: To analyze team performance, player statistics, and win-loss ratios.Business: To understand consumer behavior and improve products.Lets break down some of the most important statistical concepts.Data is simply information. It can be numbers, words, or even observations. There are two main types of data:Quantitative Data: This is data that deals with numbers and amounts, such as the height of students in a class or the number of cars sold in a dealership.Qualitative Data: This type of data deals with qualities and characteristics, such as the color of a car or a persons gender.See also Top 37+ Stunning Mass Communication Project Topics in 2023Lets say youre looking at the heights of five students in your class: 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm. This is quantitative data because it involves numbers.Population: A population refers to the entire set of data youre interested in. For example, if you wanted to know the average height of all students in your school, every student in the school would be your population.Sample: A sample is a smaller group taken from the population. For example, if you only survey 20 students from your class to find the average height, that would be your sample.In most cases, we dont have access to data from the entire population, so we work with a sample to make estimates about the population.The mean is the most commonly used measure of central tendency. Its simply the average of a set of numbers.How to Calculate the Mean:Add up all the values in the dataset.Divide the sum by the number of values.Lets calculate the mean height of five students: 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm.Step 1: Add up the heights:150+160+145+155+165=775150 + 160 + 145 + 155 + 165 = 775150+160+145+155+165=775Step 2: Divide by the number of students (5):7755=155\frac{775}{5} = 1555775=155So, the average height is 155 cm.The median is the middle number in a sorted list of numbers. Its another way to find the central value when the data is arranged in order.How to Calculate the Median:Arrange the data in increasing or decreasing order.If there is an odd number of values, the median is the middle one.If there is an even number of values, the median is the average of the two middle numbers.For the heights 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm:Step 1: Sort the data: 145 cm, 150 cm, 155 cm, 160 cm, 165 cm.Step 2: Since there are five values, the middle one is 155 cm. So, the median is 155 cm.See also Type Of Academic Writing: A Guide for Every StudentIf there were six students (e.g., 145 cm, 150 cm, 155 cm, 160 cm, 165 cm, and 170 cm), the median would be the average of the two middle values, 155 cm and 160 cm:155+1602=157.5\frac{155 + 160}{2} = 157.52155+160=157.5 cm.The mode is the value that appears most frequently in a dataset.Example:The mode is 82 because it appears three times for the following list of exam scores: 78, 82, 85, 90, 82, 92, 82.The range measures the datas spread. Its the difference between the highest and lowest values in the dataset.How to Calculate the Range:Find the highest and lowest values in your dataset.Subtract the lowest value from the highest value.For the heights 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm:Highest value: 165 cmLowest value: 145 cmRange: 165145=20165 145 = 20165145=20So, the range is 20 cm.While the mean, median, and mode give us an idea of a datasets central tendency, we often need to understand how spread out or varied the data is. This is where variance and standard deviation come in.Variance measures how far each data point is from the mean. A high variance means that the data points are spread out widely around the mean, while a low variance means the data points are close to the mean.The formula for variance is a bit more complex, but the general idea is:Variance=(xix)2nVariance = \frac{\sum (x_i \bar{x})^2}{n}Variance=n(xix)2Where:xix_ixi = each individual data pointx\bar{x}x = the meannnn = the number of data pointsThe standard deviation is simply the square root of the variance. It is the most common measure of data spread and gives us a sense of how much individual data points deviate from the mean.For a dataset with low standard deviation, the data points are clustered closely around the mean. For a dataset with a high standard deviation, the data points are more spread out.See also Top 5 Amazing C++ Project Ideas for 2023 That You LoveCorrelation is a statistical technique used to determine if two variables are related. In simpler terms, it tells us if an increase in one thing leads to an increase or decrease in another.For example, if you study more hours, do your grades improve? If theres a strong positive correlation, the more you study, the better your grades will be.Positive Correlation: As one variable increases, the other increases. (E.g., the more you practice, the better your performance.)Negative Correlation: As one variable increases, the other decreases. (E.g., the more you procrastinate, the worse your grades might be.)Regression is a statistical method for predicting one variable based on another. For example, you might use a regression model to predict your future grades based on the number of hours you study.Lets say youre part of a class where 10 students recently took a math test, and you want to understand the overall performance. Here are their scores:StudentScoreA85B90C80D95E70F88G92H78I84J91Mean Score: Add up all the scores and divide by the number of students.85+90+80+95+70+88+92+78+84+9110=87310=87.3\frac{85 + 90 + 80 + 95 + 70 + 88 + 92 + 78 + 84 + 91}{10} = 873 \div 10 = 87.31085+90+80+95+70+88+92+78+84+91=87310=87.3So, the mean score is 87.3.Median Score: Arrange the scores in order: 70, 78, 80, 84, 85, 88, 90, 91, 92, 95. Since we have 10 students (an even number), the median will be the average of the 5th and 6th scores (85 and 88).85+882=86.5\frac{85 + 88}{2} = 86.5285+88=86.5So, the median score is 86.5.Mode: There is no mode in this dataset since no score repeats.Range:9570=2595 70 = 259570=25So, the range is 25.Also Read: Descriptive Vs Inferential Statistics: Key Differences You Should KnowStatistics may seem complicated at first, but once you break it down, its all about understanding data in a meaningful way. By using basic concepts like the mean, median, mode, and range, you can start to make sense of numbers in everyday life. Whether its analyzing test scores, predicting sports outcomes, or simply understanding trends, statistics is a valuable tool that helps us make informed decisions.So, the next time you hear someone talk about data analysis or averages, youll know exactly what theyre talking about!,the free encyclopedia that anyone can edit.107,590 active editors 7,027,478 articles in EnglishDon Bradman, the Australian captainThe Second Test of the 1948 Ashes series was one of five Tests in The Ashes cricket series between Australia and England. The match was played at Lord's in London between 24 and 29June 1948. Australia won the match by 409 runs to take a 20 lead, meaning that England would need to win the remaining three matches to regain The Ashes. The Australian captain Don Bradman (pictured) won the toss and elected to bat. Australia scored 350 in their first innings. England finished their first innings at 215 early on the third morning; the Australian paceman Ray Lindwall took 5/70. Australia reached 460/7 in their second innings before Bradman declared, setting England a target of 596. The hosts reached 106/3 at stumps on the fourth day, but then collapsed on the final morning to be all out for 186, handing Australia a 409-run victory. The leading English batsman Len Hutton was controversially dropped for the following match. The match set a new record for the highest attendance at a Test in England. (Fullarticle...)Recently featured: Daily News BuildingHippocampusRed (Taylor Swift album)ArchiveBy emailMore featured articlesAboutOphicleide... that the ophicleide (example pictured) was used in early British brass bands in the 19th century before being replaced by the euphonium?... that, at the 1964 Summer Olympics, high jumper Henri Elend placed first in the qualifiers and placed last in the final?... that the audience at the premiere of the film Viet Flakes unknowingly controlled the projection equipment through their physical responses to images of the Vietnam War?... that luger Verona Marjanovi had to run through an airport while bullets were being fired to train in Germany?... that Robert Baker Park in Baltimore was named after Robert Lewis Baker, whose personal garden was recreated at the city's Flower and Garden Show the year after his death?... that Kathleen O'Melia's conversion to the Catholic Church so embarrassed the Anglican Church in Vancouver that there are almost no references to it in primary sources?... that a 1995 demonstration of the 1969-era AL1 microprocessor using Nintendo Entertainment System cartridges successfully challenged Texas Instruments' patents on the microprocessor?... that it took a two-year "campaign" from future NFL player Fred Shirey, his friends and coaches for Shirey's father to allow him to try out for his high school team?... that the reconstructed ancestral language of the Siouan languages had two sounds that linguists call "funny w" and "funny r"?ArchiveStart a new articleNominate an articleOzzy OsbourneOzzy Osbourne (pictured), the lead singer of Black Sabbath, dies at the age of 76.A fighter jet crashes into a college in Dhaka, Bangladesh, killing more than 30 people.In golf, Scottie Scheffler wins the Open Championship.A tourist boat capsizes during a thunderstorm in H Long Bay, Vietnam, leaving at least 36 people dead.Ongoing: Gaza warRussian invasion of UkrainetimelineSudanese civil wartimelineRecent deaths: Bryan BramanPhoebe AsiyoGary KarrClaus PeymannWayne ThomasAndrea GibsonNominate an articleJuly 24: Pioneer Day in Utah, United States (1847)Depiction of the Albanian revolt of 19101411 Scottish clansmen led by Donald of Islay, Lord of the Isles, and Alexander Stewart, Earl of Mar, fought the Battle of Harlaw near Inverurie, Scotland.1910 Ottoman forces captured the city of Shkodr, ending the Albanian revolt of 1910 (depicted).1920 Franco-Syrian War: At the Battle of Maysalun forces of the Arab Kingdom of Syria were defeated by a French army moving to occupy the territory allocated to them by the San Remo conference.1923 The Treaty of Lausanne was signed to settle part of the partition of the Ottoman Empire, establishing the boundaries of Greece, Bulgaria and Turkey.2019 Boris Johnson became Prime Minister of the United Kingdom after winning the Conservative Party leadership election.Martin Van Buren (d.1862)Zelda Fitzgerald (b.1900)Nayib Bukele (b.1981)Hamzah Haz (d.2024)More anniversaries: July 23July 24July 25ArchiveBy emailList of days of the yearAboutThe emperor angelfish (Pomacanthus imperator) is a species in the marine angelfish family Pomacanthidae. It is a reef-associated fish, native to the Indian and Pacific Oceans, from the Red Sea to Hawaii and the Austral Islands. Adults are found in areas where there is a rich growth of corals on clear lagoon, channel, or seaward reefs, at depths between 1 and 100 metres (3 and 330 feet). The emperor angelfish shows a marked difference between the juveniles and the adults. The juveniles have a dark blue body, which is marked with concentric curving lines, alternating between pale blue and white, while adults are striped with blue and yellow horizontal stripes, a light blue face with a dark blue mask over the eyes and a yellow caudal fin. It can attain a maximum total length of around 40 centimetres (16 inches). This adult emperor angelfish was photographed in the Red Sea off the coast of Egypt.Photograph credit: Diego DelsoRecently featured: Amlia RodriguesAtari video game burialSouthern scrub robinArchiveMore featured picturesCommunity portal The central hub for editors, with resources, links, tasks, and announcements.Village pump Forum for discussions about Wikipedia itself, including policies and technical issues.Site news Sources of news about Wikipedia and the broader Wikimedia movement.Teahouse Ask basic questions about using or editing Wikipedia.Help desk Ask questions about using or editing Wikipedia.Reference desk Ask research questions about encyclopedic topics.Content portals A unique way to navigate the encyclopedia.Wikipedia is written by volunteer editors and hosted by the Wikimedia Foundation, a non-profit organization that also hosts a range of other volunteer projects: CommonsFree media repository MediaWikiWiki software development Meta-WikiWikimedia project coordination WikibooksFree textbooks and manuals WikidataFree knowledge base WikinewsFree-content news WikiquoteCollection of quotations WikisourceFree-content library WikispeciesDirectory of species WikiversityFree learning tools WikivoyageFree travel guide WiktionaryDictionary and thesaurusThis Wikipedia is written in English. Many other Wikipedias are available; some of the largest are listed below. 1,000,000+ articles DeutschEspaolFranaisItalianoNederlandsPolskiPortugusSvenskaTing Vit 250,000+ articles Bahasa IndonesiaBahasa MelayuBn-lm-gCataletinaDanskEestiEsperantoEuskaraMagyarNorsk bokmlRomnSimple EnglishSloveninaSrpskiSrpskohrvatskiSuomiTrkeOzbekcha 50,000+ articles AsturianuAzrbaycancaBosanskiFryskGaeilgeGalegoHrvatskiKurdLatvieuLietuviNorsk nynorskShqipSlovenina Retrieved from " 2Calendar yearYears Millennium2ndmillenniumCenturies18thcentury19thcentury 20thcenturyDecades1820s1830s1840s 1850s1860sYears1844184518461847 184818491850vteSeptember 14: Mexico City, capital of Mexico, is captured by U.S. troops led by General Winfield Scott.May 8: Earthquake in Japan kills 8,600 people.1847 by topicHumanitiesArchaeologyArchitectureArtLiteraturePoetryMusicBy countryAustraliaBelgiumBrazilCanadaChinaDenmarkFranceGermanyMexicoNew ZealandNorwayPortugalSouth AfricaSwedenUnited KingdomUnited StatesOther topicsRail transportScienceSportsLists of leadersSovereign statesSovereign state leadersTerritorial governorsReligious leadersLawBirth and death categoriesBirthsDeathsEstablishments and disestablishments categoriesEstablishmentsDisestablishmentsWorks categoryWorksvte1847 in various calendarsGregorian calendar1847MDCCCXLVIIAb urbe condita2600Armenian calendar1296 Assyrian calendar6597Bah calendar34Balinese saka calendar17681769Bengali calendar12531254Berber calendar2797British Regnal year10Vict.111Vict.1Buddhist calendar2391Burmese calendar1209Byzantine calendar73557356Chinese calendar (FireHorse)4544 or 4337to (FireGoat)4545 or 4338Coptic calendar15631564Discordian calendar3013Ethiopian calendar18391840Hebrew calendar56075608Hindu calendars- Vikram Samvat19031904- Shaka Samvat17681769- Kali Yuga49474948Holocene calendar11847Igbo calendar847848Iranian calendar12251226Islamic calendar12631264Japanese calendarKka 4()Javanese calendar17741775Julian calendarGregorian minus 12 daysKorean calendar4180Minguo calendar65 before ROC65Nanakshahi calendar379Thai solar calendar23892390Tibetan calendar(male Fire-Horse)1973 or 1592 or 820to(female Fire-Sheep)1974 or 1593 or 821Wikimedia Commons has media related to 1847.1847 (MDCCCXLVII) was a common year starting on Friday of the Gregorian calendarand a common year starting on Wednesday of the Julian calendar, the 1847th year of the Common Era (CE) and Anno Domini (AD) designations, the 847th year of the 2ndmillennium, the 47th year of the 19thcentury, and the 8th year of the 1840s decade. As of the start of 1847, the Gregorian calendar was 12 days ahead of the Julian calendar, which remained in localized use until 1923. Calendar year January 4 Samuel Colt sells his first revolver pistol to the U.S. government.January 13 The Treaty of Cahuenga ends fighting in the MexicanAmerican War in California.January 16 John C. Frmont is appointed Governor of the new California Territory.January 17 St. Anthony Hall fraternity is founded at Columbia University, New York City.January 30 Yerba Buena, California, is renamed San Francisco.February 5 A rescue effort, called the First Relief, leaves Johnson's Ranch to save the ill-fated Donner Party of California-bound migrants who became snowbound in the Sierra Nevada earlier this winter. Some have resorted to survival by cannibalism.February 22 MexicanAmerican War: Battle of Buena Vista 5,000 American troops under General Zachary Taylor use their superiority in artillery to drive off 15,000 Mexican troops under Antonio Lpez de Santa Anna, defeating the Mexicans the next day.February 25 State University of Iowa is founded in Iowa City, Iowa.March 1The state of Michigan formally abolishes the death penalty.Faustin Soulouque is elected President of Haiti.March 4 The 30th United States Congress is sworn into office.March 9 MexicanAmerican War: United States forces under General Winfield Scott invade Mexico near Veracruz.March 14 Verdi's opera Macbeth premieres at the Teatro della Pergola, in Florence, Italy.March 29 MexicanAmerican War: United States forces under General Winfield Scott take Veracruz after a siege.March The first known publication of the classic joke "Why did the chicken cross the road?" occurs in The Knickerbocker, or New-York Monthly Magazine.[1]April 5 The world's first municipally-funded civic public park, Birkenhead Park in Birkenhead on Merseyside, England, is opened.[2]April 15 The Lawrence School, Sanawar is established in India.April 16 New Zealand Wars: A minor Mori chief is accidentally shot by a junior British Army officer in Whanganui on New Zealand's North Island, triggering the Wanganui Campaign (which continues until July 23).April 25 The Exmouth, carrying Irish emigrants from Derry bound for Quebec, is wrecked off Islay, with only three survivors from more than 250 on board.[3]May 7 In Philadelphia, the American Medical Association (AMA) is founded.May 8The Nagano earthquake leaves more than 8,600 people dead in Japan.Bahrain's ruler, Shaikh Mohamed bin Khalifa Al Khalifa, signs a treaty with the British to prevent and combat the slave trade in the Arabian Gulf.May 31 Second Treaty of Erzurum: the Ottoman Empire cedes Abadan Island to the Persian Empire.May The Architectural Association School of Architecture is founded in London.June 1 The first congress of the Communist League is held in London.June 9 Radley College, an English public school, is founded near Oxford as a High Anglican institution.[4]June 26 The first passenger railway wholly within modern-day Denmark opens, from Copenhagen to Roskilde.[5]June E. H. Booth & Co. Ltd, which becomes the northern England supermarket chain Booths, is founded when tea dealer Edwin Henry Booth, 19, opens a shop called "The China House" in Blackpool.July 1 The United States issues its first postage stamps.July 24: Mormons expelled from Illinois arrive at the Great Salt Lake in what is now Utah.July 24 After 17 months of travel, Brigham Young leads 148 Mormon pioneers into Salt Lake Valley, resulting in the establishment of Salt Lake City.July 26 The nation of Liberia, founded as a haven for freed African-American slaves, becomes independent.July 29 The Cumberland School of Law is founded at Cumberland University, in Lebanon, Tennessee. At the end of this year, only 15 law schools exist in the United States.August 12 MexicanAmerican War: U.S. troops of General Winfield Scott begin to advance along the aqueduct around Lakes Chalco and Xochimilco in Mexico.August 20 MexicanAmerican War Battle of Churubusco: U.S. troops defeat Mexican forces.August Yale Corporation establishes the first graduate school in the United States, as Department of Philosophy and the Arts (renamed Graduate School of Arts and Sciences in 1892).September 14 MexicanAmerican War: U.S. general Winfield Scott enters Mexico City, marking the end of organized Mexican resistance.September 30 The Vegetarian Society is formed in the United Kingdom (it remains the oldest in the world).October 12 German inventors and industrialists Werner von Siemens and Johann Georg Halske found Siemens & Halske to develop the electrical telegraph.October 19 Charlotte Bront publishes Jane Eyre under the pen name of Currer Bell in England.October 31 Theta Delta Chi is founded as a social fraternity at Union College, Schenectady, New York.October The last volcanic eruption of Mount Guntur in West Java occurs.November 329 Sonderbund War: In Switzerland, General Guillaume-Henri Dufour's Federal Army defeats the Sonderbund (an alliance of seven Catholic cantons) in a civil war, with a total of only 86 deaths.November 48 James Young Simpson discovers the anesthetic properties of chloroform and first uses it, successfully, on a patient, in an obstetric case in Edinburgh.[6]November 10 The first brew of Carlsberg beer is finished in Copenhagen.November 17 The Battle of Um Swayya Spring takes place near a spring in Qatar, after a Bahraini force under Shaikh Ali bin Khalifa Deputy Ruler of Bahrain defeats the Al Binali tribe. The chief of the Al Binali, Isa bin Tureef, is slain in battle with over 70 fatalities from his side.December 14 Emily Bront and Anne Bront publish Wuthering Heights and Agnes Grey, respectively, in a 3-volume set under the pen names of Ellis Bell and Acton Bell in England.December 20 British Royal Navy steam frigate HMSAvenger(1845) is wrecked on the Sorelle Rocks in the Mediterranean Sea with the loss of 246 lives and only eight survivors.[7]December 21 Emir Abdelkader surrenders to the French in Algeria.[8]The Great Famine continues in Ireland.The North Carolina General Assembly incorporates the railroad town of Goldsborough, and the Wayne county seat is moved to the new town.Welfare in Sweden takes its first step with the introduction of the 1847 rs fattigvrdfrordning.Cartier, a luxury brand in France, is founded.January 5 Oku Yasukata, Japanese field marshal, leading figure in the early Imperial Japanese Army (d. 1930)January 7 Caspar F. Goodrich, American admiral (d. 1925)January 24 Radomir Putnik, Serbian field marshal (d. 1917)January 28 Dorus Rijkers, Dutch naval hero (d. 1928)February 3 Warington Baden-Powell, British admiralty lawyer (d. 1921)February 4 Remus von Woyrsch, German field marshal (d. 1920)February 5 Joo Maria Correia Ayres de Campos, 1st Count of Ameal, Portuguese politician and antiquarian (d. 1920)February 8 Hugh Price Hughes, Methodist social reformer, first Superintendent of the West London Mission (d. 1902)February 11 Thomas Alva Edison, American inventor (d. 1931)February 13 Sir Robert McAlpine, Scottish builder (d. 1930)February 15 Robert Fuchs, Austrian composer (d. 1927)February 16 Philipp Scharwenka, Polish-German composer (d. 1917)February 17 Otto Blehr, Norwegian attorney, Liberal Party politician, 7th Prime Minister of Norway (d. 1927)March 1 Sir Thomas Brock, English sculptor (d. 1922)March 2Isaac Barr, Anglican clergyman, promoter of British colonial settlement schemes (d. 1937)Cayetano Arellano, first Chief Justice of the Supreme Court of the Philippines under the American Civil Government (d. 1920)March 3 Alexander Graham Bell, Scottish-born Canadian inventor (d. 1922)March 4 Carl Josef Bayer, Austrian chemist (d. 1904)March 11 Sidney Sonnino, Prime Minister of Italy (d. 1922)[9]March 14 Castro Alves, Brazilian poet (d. 1871)March 18 William O'Connell Bradley, American politician from Kentucky (d. 1914)March 23 Edmund Gurney, British psychologist (d. 1888)March 27Otto Wallach, German chemist, Nobel Prize laureate (d. 1931)Garret Barry, Irish musician (d. 1899)April 2 Charles Frederic Moberly Bell, British journalist, editor (d. 1911)April 10 Joseph Pulitzer, Hungarian-born journalist, newspaper publisher (d. 1911)April 15 Yehudah Aryeh Leib Alter, Polish Hasidic rabbi (d. 1905)April 27 Emma Irene strm, Finnish teacher, Finland's first female university graduate (d. 1934)May 7 Archibald Primrose, 5th Earl of Rosebery, Prime Minister of the United Kingdom (d. 1929)May 14 Sir Frederick William Borden, Canadian politician (d. 1917)June 8Oleksander Barvinsky, Ukrainian politician (d. 1926)Ida Saxton McKinley, First Lady of the United States (d. 1907)June 10 Gina Krog, Norwegian suffragist (d. 1916)June 11 Dame Milicent Fawcett, British suffragist (d. 1929)June 16 Luella Dowd Smith, American educator, author, and reformer (d. 1941)Paul von HindenburgBram StokerJuly 2 Marcel Alexandre Bertrand, French geologist (d. 1907)July 9 Wong Fei-hung, Chinese healer, revolutionary (d. 1925)July 13 Damian Sawczak, Ukrainian judge (d. 1912)July 19 Alexander Meyrick Broadley, British historian (d. 1916)July 20Lord William Beresford, Irish army officer, Victoria Cross recipient (d. 1900)Max Liebermann, German painter, printmaker (d. 1935)July 25 Paul Langerhans, German pathologist, biologist (d. 1888)August 3 John Hamilton-Gordon, 1st Marquess of Aberdeen and Temair, Canadian politician, Governor General (d. 1934)August 5 Andrey Selivanov, Russian general and politician (d. 1917)August 21 Hale Johnson, American temperance movement leader (d. 1902)September 3 Charles Stillman Sperry, American admiral (d. 1911)September 5Jesse James, American outlaw (d. 1882)Joseph Bucklin Bishop, American journalist, publisher (d. 1928)September 17 John I. Beggs, American businessman (d. 1925)September 22 Enrique Almaraz y Santos, Spanish Catholic cardinal (d. 1922)September 23 Anandamohan Bose, Indian politician, academic and social reformer (d. 1906)September 30 Wilhelmina Drucker, Dutch feminist (d. 1925)Maria Pia of SavoyThomas F. PorterOctober 1 Annie Besant, English women's rights activist, writer and orator (d. 1933)[10]October 2 Paul von Hindenburg, German field marshal, President of Germany (d. 1934)October 13Sir Arthur Dyke Acland, 13th Baronet, British politician (d. 1926)Maurice Bailloud, French general (d. 1921)October 14 Wilgelm Vitgeft, Russian admiral (d. 1904)October 15 Ralph Albert Blakelock, American romanticist painter (d. 1919)October 16 Maria Pia of Savoy, Queen consort of Portugal (d. 1911)October 17 Chiquinha Gonzaga, Brazilian composer (d. 1935)October 19 Aurilla Furber, American author, editor, and activist (d. 1898)October 20 Mifflin E. Bell, American architect (d. 1904)October 22 Koos de la Rey, Boer general (d. 1914)October 30Charlie Bassett, American sheriff (d. 1896)Thomas F. Porter, American politician, 32nd Mayor of Lynn, Massachusetts (d. 1927)November 1 Dame Emma Albani, Canadian operatic soprano (d. 1930)November 2 Georges Sorel, French socialist philosopher (d. 1922)November 6 Ugo Balzani, Italian historian (d. 1916)November 7 Lotta Crabtree, American stage actress (d. 1924)November 8Jean Casimir-Perier, 6th President of France (d. 1907)Bram Stoker, Irish author of the Gothic novel Dracula (d. 1912)November 17 Carlo Mirabello, Italian admiral and politician (d. 1910)[11]November 26 Dagmar of Denmark, empress of Tsar Alexander III of Russia (d. 1928)November 30 Afonso Pena, Brazilian president (d. 1909)December 1 Agathe Backer-Grndahl, Norwegian pianist, composer (d. 1907)December 9 George Grossmith, English comic writer and performer (d. 1912)December 17mile Faguet, French writer, critic (d. 1916)Michel-Joseph Maunoury, French general during World War I (d. 1923)December 18 Augusta Holms, French composer (d. 1903)December 21 John Chard, British Officer (d. 1897)December 29 Alexis-Xyste Bernard, Canadian Catholic bishop (d. 1923)December 30 John Peter Altgeld, American politician, 20th Governor of Illinois (d. 1902)Fanny MendelssohnJanuary 19 Charles Bent, first Governor of New Mexico Territory (b. 1799) (assassinated)February 3 Marie Duplessis, French courtesan (b. 1824)February 5 Luis Jos de Orbegoso, Peruvian general and politician, 11th and 12th President of Peru (b. 1795)March 9 Mary Anning, British paleontologist (b. 1799)March 3 Charles Hatchett, English chemist (b. 1765)[12]April 21 Barbara Spooner Wilberforce, wife of British abolitionist William Wilberforce (b. 1777)April 30 Archduke Charles of Austria, Austrian general (b. 1771)May 14 Fanny Mendelssohn, German composer, pianist (b. 1805)May 15 Daniel O'Connell, Irish politician who promoted the Roman Catholic Relief Act 1829 (b. 1775)May 16 Vicente Rocafuerte, 2nd President of Ecuador (b. 1783)May 29 Emmanuel de Grouchy, Marquis de Grouchy, French marshal (b. 1766)June 11 Afonso, Prince Imperial of Brazil (b. 1845)June 11 Sir John Franklin, British explorer (b. 1786)Felix MendelssohnJuly 7 Thomas Carpenter, American glassmaker (b. 1752)July 16 Karl Friedrich Burdach, German physiologist (b. 1776)September 4 Frantiek Vladislav Hek, Czech patriot (b. 1769)September 13 Nicolas Oudinot, French marshal (b. 1767)October 2 Vasil Aprilov, Bulgarian educator, merchant and writer (b. 1789)[13]October 22Henriette Herz, German salonnire (b. 1764)Negus Sahle Selassie of Shewa (b. c. 1795)November 4 Felix Mendelssohn, German composer (b. 1809)November 18 Zebulon Crocker, American congregationalist pastor (b. 1802)December 14Dorothy Ann Thrupp, British psalmist (b. 1779)Manuel Jos Arce, Central American politician (b. 1787)Barbarita Nieves, Venezuelan mistress of Jos Antonio Pez (b. 1803)Unknown: Jeanne Genevive Labrosse, French balloonist and parachutist (b. 1775)^ The Knickerbocker, or The New York Monthly, March 1847, p. 283.^ "The History of Birkenhead Park". 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War.17721795: The Partitions of Poland end the PolishLithuanian Commonwealth and erase Poland from the map for 123 years.17731775: Pugachev's Rebellion, the largest peasant revolt in Russian history.1773: East India Company starts operations in Bengal to smuggle opium into China.1775: Russia imposes a reduction in autonomy on the Zaporizhian Cossacks of Ukraine.17751782: First Anglo-Maratha War.17751783: American Revolutionary War.1776: Several kongsi republics are founded by Chinese settlers in the island of Borneo. They are some of the first democracies in Asia.17761777: A Spanish-Portuguese War occurs over land in the South American frontiers.1776: Illuminati founded by Adam Weishaupt.1776: The United States Declaration of Independence is adopted by the Second Continental Congress in Philadelphia.1776: Adam Smith publishes The Wealth of Nations.1778: James Cook becomes the first European to land on the Hawaiian Islands.1778: Franco-American alliance signed.1778: Spain acquires its first permanent holding in Africa from the Portuguese, which is administered by the newly-established La Plata Viceroyalty.1778: Vietnam is reunified for the first time in 200 years by the Tay Son brothers. The Ty Sn dynasty has been established, terminating the L dynasty.17791879: Xhosa Wars between British and Boer settlers and the Xhosas in the South African Republic.17791783: Britain loses several islands and colonial outposts all over the world to the combined Franco-Spanish navy.1779: Iran enters yet another period of conflict and civil war after the prosperous reign of Karim Khan Zand.1780: Outbreak of the indigenous rebellion against Spanish colonization led by Tpac Amaru II in Peru.1781: The city of Los Angeles is founded by Spanish settlers.George Washington17811785: Serfdom is abolished in the Austrian monarchy (first step; second step in 1848).1782: The Thonburi Kingdom of Thailand is dissolved after a palace coup.1783: The Treaty of Paris formally ends the American Revolutionary War.1783: Russian annexation of Crimea.17851791: Imam Sheikh Mansur, a Chechen warrior and Muslim mystic, leads a coalition of Muslim Caucasian tribes from throughout the Caucasus in a holy war against Russian settlers and military bases in the Caucasus, as well as against local traditionalists, who followed the traditional customs and common law (Adat) rather than the theocratic Sharia.[24]17851795: The Northwest Indian War is fought between the United States and Native Americans.17851787: The MarathaMysore Wars concludes with an exchange of territories in the Deccan.17861787: Wolfgang Amadeus Mozart premieres The Marriage of Figaro and Don Giovanni.1787: The Tuareg occupy Timbuktu until the 19th century.17871792: Russo-Turkish War.1788: First Fleet arrives in Australia17881790: Russo-Swedish War (17881790).1788: Dutch Geert Adriaans Boomgaard (17881899) would become the first generally accepted validated case of a supercentenarian on record.[25][26]Declaration of the Rights of Man and of the Citizen17881789: A Qing attempt to reinstall an exiled Vietnamese king in northern Vietnam ends in disaster.1789: George Washington is elected the first President of the United States; he serves until 1797.1789: Quang Trung defeats the Qing army.17891799: French Revolution.1789: The Lige Revolution.1789: The Brabant Revolution.1789: The Inconfidncia Mineira, an unsuccessful separatist movement in central Brazil led by Tiradentes1791: Suppression of the Lige Revolution by Austrian forces and re-establishment of the Prince-Bishopric of Lige.17911795: George Vancouver explores the world during the Vancouver Expedition.17911804: The Haitian Revolution.1791: Mozart premieres The Magic Flute.17921802: The French Revolutionary Wars lead into the Napoleonic Wars, which last from 18031815.1792: The New York Stock & Exchange Board is founded.1792: PolishRussian War of 1792.1792: Margaret Ann Neve (17921903) would become the first recorded female supercentenarian to reach the age of 110.[27][28]1793: Upper Canada bans slavery.1793: The largest yellow fever epidemic in American history kills as many as 5,000 people in Philadelphia, roughly 10% of the population.[29]17931796: Revolt in the Vende against the French Republic at the time of the Revolution.17941816: The Hawkesbury and Nepean Wars, which were a series of incidents between settlers and New South Wales Corps and the Aboriginal Australian clans of the Hawkesbury river in Sydney, Australia.1795: The Marseillaise is officially adopted as the French national anthem.Napoleon at the Bridge of the Arcole1795: The Battle of Nuuanu in the final days of King Kamehameha I's wars to unify the Hawaiian Islands.17951796: Iran invades and devastates Georgia, prompting Russia to intervene and march on Tehran.1796: Edward Jenner administers the first smallpox vaccination; smallpox killed an estimated 400,000 Europeans each year during the 18th century, including five reigning monarchs.[30]1796: War of the First Coalition: The Battle of Montenotte marks Napoleon Bonaparte's first victory as an army commander.1796: The British eject the Dutch from Ceylon and South Africa.17961804: The White Lotus Rebellion against the Manchu dynasty in China.1797: John Adams is elected the second President of the United States; he serves until 1801.1798: The Irish Rebellion fails to overthrow British rule in Ireland.17981800: The Quasi-War is fought between the United States and France.1799: Dutch East India Company is dissolved.1799: Austro-Russian forces under Alexander Suvorov liberates much of Italy and Switzerland from French occupation.1799: Coup of 18 Brumaire - Napoleon's coup d'etat brings the end of the French Revolution.1799: Death of the Qianlong Emperor after 60 years of rule over China. His favorite official, Heshen, is ordered to commit suicide.1800: On 1 January, the bankrupt VOC is formally dissolved and the nationalized Dutch East Indies are established.[31]Main articles: Timeline of historic inventions 18th century, and Timeline of scientific discoveries 18th centuryThe spinning jenny1709: The first piano was built by Bartolomeo Cristofori1711: Tuning fork was invented by John Shore1712: Steam engine invented by Thomas Newcomen1714: Mercury thermometer by Daniel Gabriel Fahrenheit1717: Diving bell was successfully tested by Edmond Halley, sustainable to a depth of 55ftc. 1730: Octant navigational tool was developed by John Hadley in England, and Thomas Godfrey in America1733: Flying shuttle invented by John Kay1736: Europeans encountered rubber the discovery was made by Charles Marie de La Condamine while on expedition in South America. It was named in 1770 by Joseph Priestleyc. 1740: Modern steel was developed by Benjamin Huntsman1741: Vitus Bering discovers Alaska1745: Leyden jar invented by Ewald Georg von Kleist was the first electrical capacitor1751: Jacques de Vaucanson perfects the first precision lathe1752: Lightning rod invented by Benjamin Franklin1753: The first clock to be built in the New World (North America) was invented by Benjamin Banneker.1755: The tallest wooden Bodhisattva statue in the world is erected at Puning Temple, Chengde, China.1764: Spinning jenny created by James Hargreaves brought on the Industrial Revolution1765: James Watt enhances Newcomen's steam engine, allowing new steel technologies1761: The problem of longitude was finally resolved by the fourth chronometer of John Harrison1763: Thomas Bayes publishes first version of Bayes' theorem, paving the way for Bayesian probability17681779: James Cook mapped the boundaries of the Pacific Ocean and discovered many Pacific Islands1774: Joseph Priestley discovers "dephlogisticated air", oxygenThe Chinese Putuo Zongcheng Temple of Chengde, completed in 1771, during the reign of the Qianlong Emperor.1775: Joseph Priestley's first synthesis of "phlogisticated nitrous air", nitrous oxide, "laughing gas"1776: First improved steam engines installed by James Watt1776: Steamboat invented by Claude de Jouffroy1777: Circular saw invented by Samuel Miller1779: Photosynthesis was first discovered by Jan Ingenhousz1781: William Herschel announces discovery of Uranus1784: Bifocals invented by Benjamin Franklin1784: Argand lamp invented by Aim Argand[32]1785: Power loom invented by Edmund Cartwright1785: Automatic flour mill invented by Oliver Evans1786: Threshing machine invented by Andrew Meikle1787: Jacques Charles discovers Charles's law1789: Antoine Lavoisier discovers the law of conservation of mass, the basis for chemistry, and begins modern chemistry1798: Edward Jenner publishes a treatise about smallpox vaccination1798: The Lithographic printing process invented by Alois Senefelder[33]1799: Rosetta Stone discovered by Napoleon's troopsMain articles: 18th century in literature and 18th century in philosophy1703: The Love Suicides at Sonezaki by Chikamatsu first performed17041717: One Thousand and One Nights translated into French by Antoine Galland. The work becomes immensely popular throughout Europe.1704: A Tale of a Tub by Jonathan Swift first published1712: The Rape of the Lock by Alexander Pope (publication of first version)1719: Robinson Crusoe by Daniel Defoe1725: The New Science by Giambattista Vico1726: Gulliver's Travels by Jonathan Swift1728: The Dunciad by Alexander Pope (publication of first version)1744: A Little Pretty Pocket-Book becomes one of the first books marketed for children1748: Chushingura (The Treasury of Loyal Retainers), popular Japanese puppet play, composed1748: Clarissa; or, The History of a Young Lady by Samuel Richardson1749: The History of Tom Jones, a Foundling by Henry Fielding1751: Elegy Written in a Country Churchyard by Thomas Gray published17511785: The French Encyclopdie1755: A Dictionary of the English Language by Samuel Johnson1758: Arithmetika Horvatzka by Mihalj ilobod Boli1759: Candide by Voltaire1759: The Theory of Moral Sentiments by Adam Smith17591767: Tristram Shandy by Laurence Sterne1762: Emile: or, On Education by Jean-Jacques Rousseau1762: The Social Contract, Or Principles of Political Right by Jean-Jacques Rousseau1774: The Sorrows of Young Werther by Goethe first published1776: Ugetsu Monogatari (Tales of Moonlight and Rain) by Ueda Akinari1776: The Wealth of Nations, foundation of the modern theory of economy, was published by Adam Smith17761789: The History of the Decline and Fall of the Roman Empire was published by Edward Gibbon1779: Amazing Grace published by John Newton17791782: Lives of the Most Eminent English Poets by Samuel Johnson1781: Critique of Pure Reason by Immanuel Kant (publication of first edition)1781: The Robbers by Friedrich Schiller first published1782: Les Liaisons dangereuses by Pierre Choderlos de Laclos1786: Poems, Chiefly in the Scottish Dialect by Robert Burns17871788: The Federalist Papers by Alexander Hamilton, James Madison, and John Jay1788: Critique of Practical Reason by Immanuel Kant1789: Songs of Innocence by William Blake1789: The Interesting Narrative of the Life of Olaudah Equiano by Olaudah Equiano1790: Journey from St. Petersburg to Moscow by Alexander Radishchev1790: Reflections on the Revolution in France by Edmund Burke1791: Rights of Man by Thomas Paine1792: A Vindication of the Rights of Woman by Mary Wollstonecraft1794: Songs of Experience by William Blake1798: Lyrical Ballads by William Wordsworth and Samuel Taylor Coleridge1798: An Essay on the Principle of Population published by Thomas Malthus(mid18th century): The Dream of the Red Chamber (authorship attributed to Cao Xueqin), one of the most famous Chinese novels1711: Rinaldo, Handel's first opera for the London stage, premiered1721: Brandenburg Concertos by J.S. Bach1723: The Four Seasons, violin concertos by Antonio Vivaldi, composed1724: St John Passion by J.S. Bach1727: St Matthew Passion composed by J.S. Bach1727: Zadok the Priest is composed by Handel for the coronation of George II of Great Britain. It has been performed at every subsequent British coronation.1733: Hippolyte et Aricie, first opera by Jean-Philippe Rameau1741: Goldberg Variations for harpsichord published by Bach1742: Messiah, oratorio by Handel premiered in Dublin1749: Mass in B minor by J.S. Bach assembled in current form1751: The Art of Fugue by J.S. Bach1762: Orfeo ed Euridice, first "reform opera" by Gluck, performed in Vienna1786: The Marriage of Figaro, opera by Mozart1787: Don Giovanni, opera by Mozart1788: Jupiter Symphony (Symphony No. 41) composed by Mozart1791: The Magic Flute, opera by Mozart17911795: London symphonies by Haydn1798: The Pathtique, piano sonata by Beethoven1798: The Creation, oratorio by Haydn first performed^ Volkov, Sergey. 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The development of the economies of continental Europe, 18501914 (1977) onlineThe Wallace Collection, London, houses one of the finest collections of 18th-century decorative arts from France, England and Italy, including paintings, furniture, porcelain and gold boxes. 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Whether you realize it or not, you use statistics every day, whether its analyzing sports scores, calculating your average grade in school, or even understanding how weather predictions work. In this blog, well explore the basic concepts of statistics, breaking them down into simple terms with examples to help you understand them better.Statistics is the branch of mathematics that deals with the collection, analysis, interpretation, and presentation of data. In simple terms, its about understanding data meaningfully. For instance, when we say, The average score of the class on the last test was 85%, we are using statistics. Statistics plays an important role in many fields, such as:Education: To analyze student performance.Healthcare: To track the spread of diseases or the effectiveness of treatments.Sports: To analyze team performance, player statistics, and win-loss ratios.Business: To understand consumer behavior and improve products.Lets break down some of the most important statistical concepts.Data is simply information. It can be numbers, words, or even observations. There are two main types of data:Quantitative Data: This is data that deals with numbers and amounts, such as the height of students in a class or the number of cars sold in a dealership.Qualitative Data: This type of data deals with qualities and characteristics, such as the color of a car or a persons gender.See also 199+ Child Development Topics [Updated]Lets say youre looking at the heights of five students in your class: 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm. This is quantitative data because it involves numbers.Population: A population refers to the entire set of data youre interested in. For example, if you wanted to know the average height of all students in your school, every student in the school would be your population.Sample: A sample is a smaller group taken from the population. For example, if you only survey 20 students from your class to find the average height, that would be your sample.In most cases, we dont have access to data from the entire population, so we work with a sample to make estimates about the population.The mean is the most commonly used measure of central tendency. Its simply the average of a set of numbers.How to Calculate the Mean:Add up all the values in the dataset.Divide the sum by the number of values.Lets calculate the mean height of five students: 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm.Step 1: Add up the heights:150+160+145+155+165=775150 + 160 + 145 + 155 + 165 = 775150+160+145+155+165=775Step 2: Divide by the number of students (5):7755=155\frac{775}{5} = 1555775=155So, the average height is 155 cm.The median is the middle number in a sorted list of numbers. Its another way to find the central value when the data is arranged in order.How to Calculate the Median:Arrange the data in increasing or decreasing order.If there is an odd number of values, the median is the middle one.If there is an even number of values, the median is the average of the two middle numbers.For the heights 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm:Step 1: Sort the data: 145 cm, 150 cm, 155 cm, 160 cm, 165 cm.Step 2: Since there are five values, the middle one is 155 cm. So, the median is 155 cm.See also Top 50+ Self Awareness Activities For Students To Try In 2024If there were six students (e.g., 145 cm, 150 cm, 155 cm, 160 cm, 165 cm, and 170 cm), the median would be the average of the two middle values, 155 cm and 160 cm:155+1602=157.5\frac{155 + 160}{2} = 157.52155+160=157.5 cm.The mode is the value that appears most frequently in a dataset.Example:The mode is 82 because it appears three times for the following list of exam scores: 78, 82, 85, 90, 82, 92, 82.The range measures the datas spread. Its the difference between the highest and lowest values in the dataset.How to Calculate the Range:Find the highest and lowest values in your dataset.Subtract the lowest value from the highest value.For the heights 150 cm, 160 cm, 145 cm, 155 cm, and 165 cm:Highest value: 165 cmLowest value: 145 cmRange: 165145=20165 145 = 20165145=20So, the range is 20 cm.While the mean, median, and mode give us an idea of a datasets central tendency, we often need to understand how spread out or varied the data is. This is where variance and standard deviation come in.Variance measures how far each data point is from the mean. A high variance means that the data points are spread out widely around the mean, while a low variance means the data points are close to the mean.The formula for variance is a bit more complex, but the general idea is:Variance=(xix)2nVariance = \frac{\sum (x_i \bar{x})^2}{n}Variance=n(xix)2Where:xix_ixi = each individual data pointx\bar{x}x = the meannnn = the number of data pointsThe standard deviation is simply the square root of the variance. It is the most common measure of data spread and gives us a sense of how much individual data points deviate from the mean.For a dataset with low standard deviation, the data points are clustered closely around the mean. For a dataset with a high standard deviation, the data points are more spread out.See also 23+ Sustainability Project Ideas to Help Save the PlanetCorrelation is a statistical technique used to determine if two variables are related. In simpler terms, it tells us if an increase in one thing leads to an increase or decrease in another.For example, if you study more hours, do your grades improve? If theres a strong positive correlation, the more you study, the better your grades will be.Positive Correlation: As one variable increases, the other increases. (E.g., the more you practice, the better your performance.)Negative Correlation: As one variable increases, the other decreases. (E.g., the more you procrastinate, the worse your grades might be.)Regression is a statistical method for predicting one variable based on another. For example, you might use a regression model to predict your future grades based on the number of hours you study.Lets say youre part of a class where 10 students recently took a math test, and you want to understand the overall performance. Here are their scores:StudentScoreA85B90C80D95E70F88G92H78I84J91Mean Score: Add up all the scores and divide by the number of students.85+90+80+95+70+88+92+78+84+9110=87310=87.3\frac{85 + 90 + 80 + 95 + 70 + 88 + 92 + 78 + 84 + 91}{10} = 873 \div 10 = 87.31085+90+80+95+70+88+92+78+84+91=87310=87.3So, the mean score is 87.3.Median Score: Arrange the scores in order: 70, 78, 80, 84, 85, 88, 90, 91, 92, 95. Since we have 10 students (an even number), the median will be the average of the 5th and 6th scores (85 and 88).85+882=86.5\frac{85 + 88}{2} = 86.5285+88=86.5So, the median score is 86.5.Mode: There is no mode in this dataset since no score repeats.Range:9570=2595 70 = 259570=25So, the range is 25.Also Read: Descriptive Vs Inferential Statistics: Key Differences You Should KnowStatistics may seem complicated at first, but once you break it down, its all about understanding data in a meaningful way. By using basic concepts like the mean, median, mode, and range, you can start to make sense of numbers in everyday life. Whether its analyzing test scores, predicting sports outcomes, or simply understanding trends, statistics is a valuable tool that helps us make informed decisions.So, the next time you hear someone talk about data analysis or averages, youll know exactly what theyre talking about! Statistics is a branch of mathematics that allows you to collect, organize, and analyze data or information. It can beuseful for things like identifying patterns, solving problems, and making decisions.Check out this video to learn more:One of the main goals of statistics is to help us clearly understand whats happening in our environment. We might have a hunch about something, but statistics provides the numbers or hard facts which prove or disprove our ideas.Statistics is singular when referring to the field. Statistics (plural) are numbers in a data set.What is statistics used for?Statistics is often used to understand groups of peoples behaviors. Governments and companies can use this data to identify patterns or trends.For example, Google processes millions of searches every day. It collects information on search terms and uses it to give people better results.Another example is Netflix, the platform for streaming movies and TV shows. Netflix collects data from its users to find out what content they like. This helps them to make suggestions, and also decide what types of original content they should produce which people will like.Statistics are used in healthcare to test out which medicines are effective, in economics to find out which products people buy, and in education to see how many students are graduating. In short, there are different fields and situations in which it is necessary to interpret large amounts of data. Otherwise, we might not know where to start!In the next lesson, well go over the key terms you need to know in order to start using statistics. As youll see, its helpful to know the basics for work, problem-solving, and everyday life. /en/statistics-basic-concepts/key-terms/content/ Sorry, your browser does not support HTML5 video. From configuring with the 3D live preview to FREE express delivery Have your document scanned for plagiarism in just 10 minutes with our plagiarism checker. Play it safe and check your thesis for plagiarism before the printing and binding process. Configure your dream binding in our online print shop with our 3D live preview. NEW: the look inside function allows for a final check online before printing and binding! With our FREE express delivery, youll get your binding as fast as possible. Get an accurate estimate of the arrival time with our delivery date calculator to ensure you get your thesis on time. Receive the most likes on a post of your thesis on Instagram and win up to $300 Win just by participating! Last Check before Printing With our look inside feature, you can flip through your thesis virtually before sending it off for the printing and binding process. This way, you can be sure that your thesis will look exactly the way you want it to when receiving the physical product. Our look inside function allows you to check your thesis before placing the order. You can browse through your paper online with a 3D live preview of your binding. By this, you can make sure that everything meets your expectations and standards. The BachelorPrint online shop shows you every feature you configure in your binding with an accurate visualization in a 3D live preview. You will also get a price calculation for your configuration and the estimated day of delivery in the process. Ordered Today, Delivered Tomorrow! 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Easy to order, fast delivery, great quality and those little bears full of love Easy to order, fast delivery, great quality and those little bears full of love Supreme service, great quality, fast delivery, great prices - nice people - what more could you possibly want. Highly recommended. Such an amazing experience. The website is easy to navigate. The product is beautiful! And, for being printed in Germany, they were able to ship it to the destination in the United States within 2 days of me ordering. It takes our post office 10 days to get a letter across the street! You guys are impressive. Danke, meine Freunde! Fantastic! The quality is excellent, and the service was incredibly friendly. They even called to reassure me about how my print was turning out. It arrived the very next dayflawless, with vibrant colors, high-quality paper and materials, and even impressive packaging. You can tell it was made with care. Thank you, Bachelor Print! Wonderful quality of the service! The print is great, packaging shows attention to details and the delivery was also really fast. Definitely recommend! Ordered 4 copies of my Masterthesis, they came out in a very stunning and really great quality. Delivery was flawless too. BachelorPrint over achieved my expectations! Will come back with my PhD as well. Absolutely stunning! They quickly added my university's logo to their website after I sent them an email with the file. Quality for price is outstanding. Communication is great and the order has been delivered very fast. Package was secured very well with 3 layers of wrapping foil and cardboard support to avoid damages. Just placed another order. I received my thesis which I ordered to print it 3 days ago. I got a little bit stress because I thought that I stayed late to print my thesis but BACHELOR PRINT IS AMAZINGGGGG!!!!!!!!!!! They print my thesis very quickly(normally the ... Absolutely love my Doctoral book from BachelorPrint. Super fast shipping!!!! And it looks amazing! High quality! I would definitely recommend! Great job, Bachlorprint!! Thank you so much for your fast delivery and NICE work! I'm surprised how you've handled this job like that, you amazed me! By the way, I contacted over three other places before I ended up ordering you, which said ... I ordered a hardcover binding for my bachelor and master theses and and it came out wonderful! There were some problems but Bachelorprint helped me with it and I am 100% satisfied with the product and speed of delivery! Would recommend it! Big thanks to @bachelorprint for this gorgeous binding of my thesis! The red and gold combo is a showstopper, and their reliable service with quick delivery made the entire process stress-free. Highly recommend! VERY GEEAT PRINTING SERVICE! I've user this services twice. One for my Bachelor's degree and now for my Master's degree! Always satisfied with the printing quality. Recommended as always. Thank you... More VERY GEEAT PRINTING SERVICE! I've user this services twice. One for my Bachelor's degree and now for my Master's degree! Always satisfied with the printing quality. Recommended as always. Thank you... They have the offer now. 3x copies + 1 FREE!!! Go and check it now I recently used BachelorPrint for my PhD thesis, and I couldn't be more pleased with the results. The hardcover binding in burgundy looks very professional and the print quality is exceptional, too. The turnaround time was particularly impressive, since the product was delivered from Germany to the UK in less than two days. Overall, BachelorPrint is worth every penny to ensure your hard work is presented in an adequate way. Achieve maximum success and service with BachelorPrint University Solutions The plagiarism software for universities/colleges We support universities and colleges conscientiously and meticulously in detecting plagiarism and ensuring academic guidelines are followed. Students win withBachelorPrint You can attract new students with ease through our online reach. Advertising on BachelorPrint is sustainable with a promising success rate. The best printing partner for your students Offer your students the best provider for printing academic works. Enhance your service with exclusive benefits and print vouchers. Service for the student body of faculty Professional contact partner for print solutions. From cost-effective large-scaled scripts for resale to exclusive print vouchers for your members. From simple link exchange to online sales collaborations From simple link exchange to content exchange. Specifically, tailored cooperation models for you & us! With our digital services: $0 costs, maximum success. Our partners are impressed you will be too! Contact In simple random sampling, each member of the target population has an equal chance of being selected, ensuring an unbiased representation. This methodology allows researchers to make generalized conclusions about the population based on the sample, bolstering the reliability and validity of the studys findings. Moreover, the ease of understanding and implementation makes simple random sampling a popular choice among researchers across various fields. Definition:Simple random sampling Simple random sampling refers to the process of randomly picking a sample from a population without any prior defined selection process.Since the sample selection is entirely arbitrary, simple random selection is used in research as an unbiased method of studying subsets in a given population. When do you use simple random sampling?Simple random sampling is utilized in the research methodology to infer confidence through internal validity and external validity.The studys findings in simple random sampling should be trustworthy as determined by the factors under investigation and without interference from other variables, i.e., confounding variables. The results of the case study should be replicable across different studies and produce verifiable findings.Depending on several factors, such as population size, it may be challenging to undertake simple random sampling. Some of the conditions for simple random sampling include: A comprehensive list of all the members in the target populationA reliable method of contacting the members who have been selected for the studyAdequate time and resources such as manpower, collection materials, and budgetary allocations. Simple random sampling is used in research cases that involve a large population. It is the best approach in such instances since every sample is picked randomly. Thus, the resulting sample is assumed to be more inclusive of the main themes in the larger population. Additionally, simple random sampling can be used in cases where time and resources are readily available.Researchers may use a combination of two probability sampling techniques based on the objectives of a case study. For example, simple random sampling may be used to construct the initial sample then systematic sampling may be applied to further distill the sample. The main types of probability sampling used in research include: Cluster samplingStratified samplingSystematic sampling This method divides a large population into smaller units called clusters. Samples are then picked from each cluster to be used for analysis.This approach divides the population into strata or classes based on similar observable characteristics. A sample is then picked from each stratum for further scrutiny.This method is based on an interval system of sample selection. Researchers determine the optimal sample size and then select the nth sample from a linear population for study. Simple random sampling: 4 StepsThe technique of simple random sampling can be broken down into 4 steps as follows: Step 1 of simple random sampling: Define the populationIdentify the population that best fits your research objectives. Outline the characteristics of the population and ensure you have access to the members throughout the course of the study as and when needed. ExampleIn the study of Teaching Staff in the US, the population equals all the 3.2 million teachers in different capacities within the US. Step 2 of simple random sampling: Decide on the sample sizeAfter defining the population, you should choose the sample size. You may opt to select a large sample as it is more representative. However, this usually requires more resources.You can use standard deviation, confidence interval, and confidence level metrics. The most preferred confidence interval is 0.05, while the confidence level usually is 0.95.If you are unsure of the standard deviation, choose a number such as 0.5, which can accommodate a range of possibilities. A sample size calculator can then be used to estimate the sample size. ExampleThe Harvard study on well-being and happiness has been studying the lives of 724 men over the last few decades.This group of men was identified at a young age from different socioeconomic backgrounds.While this sample is small, it accommodates a range of factors such as income, family size, and education.These variables are distributed among the study members, offering a detailed report. Step 3 of simple random sampling: Randomly select your sample There are two main methods:Lottery methodEach member is assigned a number; these numbers are drawn randomly from a pool.Computer software may be used to do the same task.Random number method The members of the population are tagged with numbers.Rearchers then use different number generators to generate random numbers to be used in the sample.Other tools used in number generation include the RAND function in Microsoft Excel. ExampleThe World Health Organization stipulates the random sampling of patients on new drug test runs. Step 4 of simple random sampling: Collect data from your sampleThis is the final step in the simple random sampling process.Researchers need to ensure every member selected for sampling is available and willing to participate in the study. If any members fail to co-operate or withdraw from the study, it may interfere with the accuracy of the findings. ExampleThe American Housing Survey invites participants through their website.If the recipients fail to respond, a follow-up email and a physical visit may be arranged.This ensures that most if not all of the respondents participate in the study to inform policy development. Simple random sampling reduces the chances of errors from pre-selected members of a sample. It is also easy to carry out as the methods are relatively straightforward. Simple random sampling may not be applicable where the population is distributed across a large area.Researchers may also face challenges accessing the sample group.Additionally, simple random selection may be time-consuming and expensive over a period of time. It is a probabilistic method of sample selection.Members of a population are selected based on homogenous and heterogeneous characteristics.Researchers use this type of sampling to study defined research goals in a large population. The main methods used include;systematic samplingclustered samplingstratified samplingThey are used in their best-use scenarios from an evaluative approach based on the research issues at hand. In today's digital world, data is everywhere - whether it's website traffic, social media activity, or sales numbers.And with all that information pouring in, how do you make sense of it all?What does it mean?What's relevant?Whats important?And how can we use this data?Well, thats where summary statistics come in because they help you cut through the chaos and quickly get to the insights that matter.In this guide, Im going to walk you through some basic summary statistics features using Python (one of the most popular programming languages for beginners and experts) to better understand your data and extract powerful insights.This way you can get an idea of what's possible with this tool, and how it can help to uncover valuable patterns and spot trends in your business to analyze market shifts. Not only that, but if youre been doing this with other tools, then youll see how simple it is to get the same information (or more) using a few lines of Python code.Heck, well even recap just what summary statistics are if youre a complete beginner and not sure how they can help you, so, are you ready to transform data chaos into actionable strategy?Well, grab a coffee and a notepad and lets dive in!Sidenote: This guide is just a brief introduction to this topic. If you want to learn everything about summary statistics (as well as how to use Python for this), then check out my complete course:No prior coding or math experience is required, as everything is taught from scratch inside the course. Youll learn statistics from an industry expert (me) and even have fun!And because one of the best ways to learn is by doing and applying, you also build 6 different statistics-based projects, as well as solidify your skills with 18 quizzes, practice tests, and challenges.Plus you'll also learn how to utilize ChatGPT to work with statistics and conduct data analysis efficiently so youre ahead of the curve!With that out of the way, lets get into this guide. In very simple terms, summary statistics are numbers that help you quickly understand a big set of data. They tell you important things about the data without you having to look at every single number.They make data more simple: They shrink a lot of numbers down to just a few important ones, making it easier to see what's going onThey help you to spot patterns: They help you see general trends, like what the average is, how spread out the numbers are, and if there are any unusual numbersThey help you to more easily compare: They let you compare different groups of data quickly. For example, you can compare the average test scores of two different classesThey help you make business decisions: They give you useful information to help make choices based on the data. For instance, a company might use summary statistics to decide what products to sell more of.They help you to more easily explain results: They make it easier to explain the data to others, especially if they don't want to see all the detailsThey help you to find odd numbers: They help you find numbers that are much higher or lower than the rest, which might need more attention.Summary statistics are powerful analytical tools that unlock the stories hidden within your data.Whether you're sifting through vast amounts of commercial data, tuning sensors for cutting-edge technological applications, or balancing risk in volatile financial markets, summary statistics are your gateway to actionable insights.For exampleFor data analysts working in retail environments, understanding key metrics like the mean, median, and mode isn't just about processing numbers - its about translating these figures into business strategies.These statistics could reveal the average spend per customer, helping tailor marketing campaigns more effectivelyYou could identify average spend, then identify the type of customer with the highest average spend, and

the data:Cumulative Sales: Helps in understanding the overall revenue growth over the period. This data can help businesses track growth, set future sales targets, and make informed decisions about inventory and marketingCumulative Max and Min Temperatures: Show the extremes that have been reached throughout the dataset, which can be crucial for climate studies or resource planning. Setting performance benchmarks based on these values allows businesses to measure current performance against historical highs and manage risks accordinglyCumulative Product of Satisfaction: Although less common, this can illustrate compounding effects in scenarios where satisfaction metrics multiply over customer interactions. In finance, understanding compound growth over time is essential for investment planning and strategy developmentSo whats next?As you can see, learning to use summary statistics with Python can be incredibly beneficial if youre looking to start analyzing your data and form insights from it.I know weve only gleaned the surface of what's possible here, but you now have a much better idea of what's possible, and how easy it can be to use.And dont worry if you can't follow everything. Remember, the path to becoming a proficient data analyst or data scientist is a marathon, not a sprint. By continually applying these techniques and expanding your knowledge, youll become more adept at uncovering the stories your data has to tell.Stick with it and youll understand your data and your business far better now and in the future!P.S.Remember, if you want to learn everything about summary statistics (as well as how to use Python), then check out my complete course!No prior coding or math experience is required, as everything is taught from scratch inside the course. Youll learn statistics from an industry expert (me) and even have fun!And because one of the best ways to learn is by doing and applying, you also build 6 different statistics-based projects, as well as solidify your skills with 18 quizzes, practice tests, and challenges. Plus you'll also learn how to utilize ChatGPT to work with statistics and conduct data analysis efficiently so youre ahead of the curve!And as an added bonus?When you take this course and join the Zero To Mastery Academy, youll also have access to every data analytics course that we cover, as well as access to our private Discord server.Here you can ask questions of me directly (or any teacher) as well as fellow students and working professionals! Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. 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Statistics is the study of the collection, analysis, interpretation, presentation, and organization of data. In other words, it is a mathematical discipline to collect, summarize data. Also, we can say that statistics is a branch of applied mathematics. However, there are two important and basic ideas involved in statistics; they areuncertainty and variation.The uncertainty and variation in different fields can be determined only through statistical analysis. These uncertainties are basically determined by the probability that plays an important role in statistics. What is Statistics?Statistics is simply defined as the study and manipulation of data. As we have already discussed in the introduction that statistics deals with the analysis and computation of numerical data. Let us see more definitions of statistics given by different authors here.According to Merriam-Webster dictionary, statistics is defined as classified facts representing the conditions of a people in a state especially the facts that can be stated in numbers or any other tabular or classified arrangement.According to statistician Sir Arthur Lyon Bowley, statistics is defined as Numerical statements of facts in any department of inquiry placed in relation to each other.Statistics Download PDF Statistics ExamplesSome of the real-life examples of statistics are:To find the mean of the marks obtained by each student in the class whose strength is 50. The average value here is the statistics of the marks obtained.Suppose you need to find how many members are employedin a city. Since the city is populated with 15 lakh people, hence we will take a survey here for 1000 people (sample). Based on that, we will create the data, which is the statistic. Basics of StatisticsThe basics of statistics include the measure of central tendency andthe measure of dispersion. The central tendencies aremean, median and modeand dispersions comprise variance and standard deviation.Mean is the average of the observations. Median is the central value when observations are arranged in order. The mode determines the most frequent observations in a data set.Variation is the measure of spread out of the collection of data. Standard deviation is the measure of the dispersion of data from the mean. The square of standard deviation is equal to the variance. Mathematical StatisticsMathematical statistics is the application of Mathematics to Statistics, which was initially conceived as the science of the state the collection and analysis of facts about a country: its economy, and, military, population, and so forth.Mathematical techniques used for different analytics include mathematical analysis, linear algebra, stochastic analysis, differential equation and measure-theoretic probability theory. Types of StatisticsBasically, there are two types of statistics.Descriptive StatisticsInferential StatisticsIn the case of descriptive statistics, the data or collection of data is described in summary. But in the case of inferential stats, it is used to explain the descriptive one. Both these types have been used on large scale.Descriptive StatisticsThe data is summarised and explained in descriptive statistics. The summarization is done from a population sample utilising several factors such as mean and standard deviation. Descriptive statistics is a way of organising, representing, and explaining a set of data using charts, graphs, and summary measures. Histograms, pie charts, bars, and scatter plots are common ways to summarise data and present it in tables or graphs. Descriptive statistics are just that: descriptive. They dont need to be normalised beyond the data they collect.Inferential StatisticsWe attempt to interpret the meaning of descriptive statistics using inferential statistics. We utilise inferential statistics to convey the meaning of the collected data after it has been collected, evaluated, and summarised. The probability principle is used in inferential statistics to determine if patterns found in a study sample may be extrapolated to the wider population from which the sample was drawn. Inferential statistics are used to test hypotheses and study correlations between variables, and they can also be used to predict population sizes. Inferential statistics are used to derive conclusions and inferences from samples, i.e. to create accurate generalisations.Statistics FormulasThe formulas that are commonly used in statistical analysis are given in the table below.Sample Standard Deviation, (s)Range, (R)Largest data value smallest data value Summary StatisticsIn Statistics, summary statistics are a part of descriptive statistics (Which is one of the types of statistics), which gives the list of information about sample data. We know that statistics deals with the presentation of data visually and quantitatively. Thus, summary statistics deals with summarizing the statistical information. Summary statistics generally deal with condensing the data in a simpler form, so that the observer can understand the information at a glance.Generally, statisticians try to describe the observations by finding:The measure of central tendency or mean of the locations, such as arithmetic mean.The measure of distribution shapes like skewness or kurtosis.The measure of dispersion such as the standard mean absolute deviation.The measure of statistical dependence such as correlation coefficient.Summary Statistics TableThe summary statistics table is the visual representation of summarized statistical information about the data in tabular form.For example, the blood group of 20 students in the class are O, A, B, AB, B, B, AB, O, A, B, B, AB, AB, O, O, B, A, AB, B, A.Blood GroupNo. of StudentsO4A4B7AB5Total20Thus, the summary statistics table shows that 4 students in the class have O blood group, 4 students have A blood group, 7 students in the class have B blood group and 5 students in the class have AB blood group.The summary statistics table is generally used to represent the big data related to population, unemployment, and the economy to be summarized systematically to interpret the accurate result. Scope of StatisticsStatistics is used in many sectors such as psychology, geology, sociology, weather forecasting, probability and much more. The goal of statistics is to gain understanding from the data, it focuses on applications, and hence, it is distinctively considered as a mathematical science. Methods in StatisticsThe methods involve collecting, summarizing, analyzing, and interpreting variable numerical data. Here some of the methods are provided below.Data collectionData summarizationStatistical analysis What is Data in Statistics?Data is a collection of facts, such as numbers, words, measurements, observations etc. Types of DataQualitative data- it is descriptive data.Example- She can run fast, He is thin.Quantitative data- it is numerical information.Example- An Octopus is an Eight legged creature. Types of quantitative dataDiscrete data- has a particular fixed value. It can be countedContinuous data- is not fixed but has a range of data. It can be measured. Representation of DataThere are different ways to represent data such as through graphs, charts or tables. The general representation of statistical data are:Bar GraphPie ChartLine GraphPictographHistogramFrequency DistributionBar GraphA Bar Graph represents grouped data with rectangular bars with lengths proportional to the values that they represent. The bars can be plotted vertically or horizontally.Pie ChartA type of graph in which a circle is divided into Sectors. Each of these sectors represents a proportion of the whole.Line graphThe line chart is represented by a series of data points connected with a straight line.The series of data points are called markers.PictographA pictorial symbol for a word or phrase, i.e. showing data with the help of pictures. Such as Apple, Banana & Cherry can have different numbers, and it is just a representation of data.HistogramA diagram is consisting of rectangles. Whose area is proportional to the frequency of a variable and whose width is equal to the class interval.Frequency DistributionThe frequency of a data value is often represented by f. A frequency table is constructed by arranging collected data values in ascending order of magnitude with their corresponding frequencies. Measures of Central TendencyIn Mathematics, statistics are used to describe the central tendencies of the grouped and ungrouped data. The three measures of central tendency are: All three measures of central tendency are used to find the central value of the set of data. Measures of DispersionIn statistics, the dispersion measures help interpret data variability, i.e. to understand how homogenous or heterogeneous the data is. In simple words, it indicates how squeezed or scattered the variable is. However, there are two types of dispersion measures, absolute and relative. They are tabulated as below: Skewness in StatisticsSkewness, in statistics, is a measure of the asymmetry in a probability distribution. It measures the deviation of the curve of the normal distribution for a given set of data.The value of skewed distribution could be positive or negative or zero. Usually, the bell curve of normal distribution has zero skewness. ANOVA StatisticsANOVA Stands for Analysis of Variance. It is a collection of statistical models, used to measure the mean difference for the given set of data.Degrees of freedomIn statistical analysis, the degree of freedom is used for the values that are free to change. The independent data or information that can be moved while estimating a parameter is the degree of freedom of information.Applications of StatisticsStatistics have huge applications across various fields in Mathematics as well as in real life. Some of the applications of statistics are given below:Applied statistics, theoretical statistics and mathematical statisticsMachine learning and data miningStatistics in societyStatistical computingStatistics applied to the mathematics of the artsVideo LessonGrade 11 StatisticsStatistics Related Articles Hope this detailed discussion and formulas on statistics will help you to solve problems quickly and efficiently. Learn more Maths concepts at BYJUS with the help of interactive videos.Statistics is a branch that deals with the study of the collection, analysis, interpretation, organisation, and presentation of data. Mathematically, statistics is defined as the set of equations, which are used to analyse things.The two different types of statistics used for analyzing the data are:Descriptive Statistics: It summarizes the data from the sample using indexesInferential Statistics: It concludes from the data which are subjected to the random variationSummary statistics is a type of descriptive statistics, which is used to summarize the set of observations with large information as simply as possible. Statisticians used to describe the observation by finding the measures of central tendency, statistical dispersion, statistical dependence, and the shape of the distribution.Statistics is a part of Applied Mathematics that uses probability theory to generalize the collected sample data. It helps to characterize the likelihood where the generalizations of data are accurate. This is known as statistical inference.Statistics make us learn to utilize a restricted sample to make accurate determinations about a more prominent populace. The utilization of tables, diagrams, and graphs assumes a crucial part in introducing the information being utilized to reach these determinations.Statistics encourages you to utilize legitimate strategies to gather the information, utilize the right examinations, and successfully present the outcomes. Measurement is a significant cycle behind how we make disclosures in science, settle on choices dependent on information, and make forecasts.

What is simple correlation in statistics. What is dispersion in statistics in simple words. What is inferential statistics in simple words. What is variance in statistics in simple terms. What is mean in statistics in simple words. What is a parameter in statistics simple definition. What is regression in statistics in simple words. What is p value in statistics in simple words. What is a simple event in statistics. What is statistics in simple words. What is simple bar diagram in statistics. What is a simple random sample in statistics. What is standard deviation in statistics in simple terms. What is statistics in simple terms. What is descriptive statistics in simple words.