BIO 401 Current Solved

SPSS Applications Usage and all steps?

 Originally it is an acronym of Statistical Package for the Social Science but now it stands for Statistical Product and Service Solutions

Application (Jo mujy samjh aayie)

Data Editor
Output Viewer
Syntax Editor
Script Window

Usage in Research

SPSS is short for Statistical Package for the Social Sciences, and it's used by various kinds of researchers for complex statistical data analysis. ... Most top research agencies use SPSS to analyze survey data and mine text data so that they can get the most out of their research projects.

Variable View Window?

The Variable View tab displays information about the variables in your data. You can get to the Variable View window in two ways: In the Data Editor window, click the Variable View tab at the bottom. In the Data Editor window, in the Data View tab, double-click a variable name at the top of the column. **(Internet)**

Complementary, Dependent and independent Events?

Dependent Events: Two events A and B are dependent events when the occurrence of event A has an influence on the occurrence of an event B.

$$P(A \text{ and } B) = P(A) \times P(B/A)$$

Independent Events: Two events A and B are said to be independent events when the occurrence of an event A has no effect on the occurrence of an event B.

$$P(A \text{ and } B) = P(A) \times P(B)$$

Many times its not obvious whether two events are independent or not. In such cases we use following formula.

$$P(A/B) = P(A)$$

Complementary Events:

To every event A, there corresponds another event Ac , called the complement of A that consists of all other outcomes in the sample space not in event A. The word NOT is used to describe the complement. Since the event and its complement must account for all the outcomes of an experiment, their probabilities must add up to one. Complementary events are always mutually exclusive events but mutually exclusive events are not always complementary event.

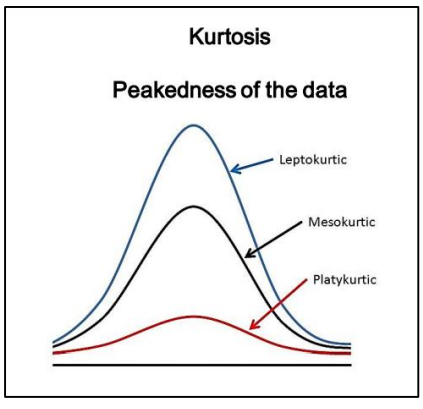
How to write name in window view?

Name

The first character of the variable name must be alphabetic Variable names must be unique, and have to be less than 64 characters. Spaces are NOT allowed. **(PPT)**

Click the Variable View tab. Type the name for your first variable under the Name column. You can also enter other information about the variable, such as the type (the default is "numeric"), width, decimals, label, etc. Type the name for each variable that you plan to include in your dataset. **(Internet)**

Draw kurtosis Graph / Draw Peakedness and Kurtosis?



Correlation?

Correlation is a statistical technique used to determine the degree to which two variables are related

Define Joint probability?

Given random variables that are defined on a probability space, the joint probability distribution for is a probability distribution that gives the probability that each of falls in any particular range or discrete set of values specified for that variable. **(Internet)**

Sample Parameter and Farm Define?
A statistic and a parameter are very similar. They are both descriptions of groups, like "50% of dog owners prefer X Brand dog food." The difference between a statistic and a parameter is that statistics describe a sample. A parameter describes an entire population.

Use of ROC CURVES?
Receiver Operating Characteristic (ROC) Curve, is a plot of the true positive rate against the false positive rate for the different possible cut points of the diagnostic test.
1. It shows the tradeoff between sensitivity and specificity (any increase in sensitivity will be accompanied by a decrease in specificity).
2. The closer the curve follows the left-hand border and then the top border of the ROC space, the more accurate the test.
3. The closer the curve comes to the 45-degree diagonal of the ROC space, the less accurate the test.
4. The ~~slope of the tangent line at a cut point gives the likelihood ratio (LR) for that value of the test.~~

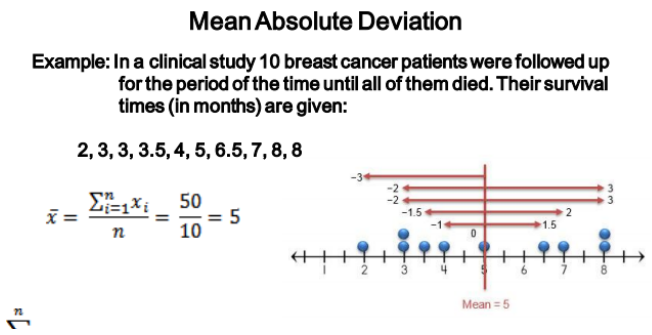
Percentile Calculation 75, of 41.0,8 27.1,34.7 ?
???????????

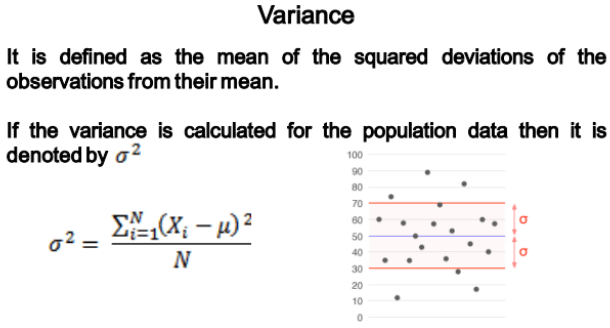
Measure of dispersion?
Dispersion (also called variability, scatter, or spread) is the extent to which a distribution is stretched or squeezed. Common examples of **measures** of statistical **dispersion** are the variance, standard deviation, and interquartile range.

Sampling Methods?
A sampling method is a procedure for selecting sample members from a population. Three common sampling methods are: simple random sampling , stratified sampling , and cluster sampling .

Step of Syntax Editor?
Click „Analyze," „Descriptive statistics," then click „Frequencies." □ Put „Gender" in the Variable(s) box. □ Then click „Charts," „Bar charts," and click „Continue." □ Click „Paste." □ Highlight the commands in the Syntax editor and then click the run icon. □ You can do the same thing by right clicking the highlighted area and then by clicking „Run Current"

Mean Variance Formula?





How simple stratified sample is done / chosen?
Stratified sampling refers to a type of sampling method . With stratified sampling, the researcher divides the population into separate groups, called strata. Then, a probability sample (often a simple random sample) is drawn from each group. ... Or it may be possible to increase the precision with the same sample size.

How can you Draw Height of students in descending order?
Click data, sort cases, double click 'height of students,' click 'descending,' and finally click ok.

Draw bar graph 2 to 4 population element?
????????????

Define type of windows?
Data Editor Output Viewer Syntax Editor Script Window.

Output Viewer: Output Viewer Displays output and errors. Extension of the saved file will be "spv."

Script Windoe: Script Window Provides the opportunity to write full-blown programs, in a BASIC-like language. Text editor for syntax composition. Extension of the saved file will be "sbs."
Syntax Editor: Syntax Editor Text editor for syntax composition. Extension of the saved file will be "sps."

Data Editor: The Data Editor provides a convenient, spreadsheet-like method for creating and editing data files. The Data Editor window opens automatically when you start a session. The Data Editor provides two views of your data: Data View. This view displays the actual data values or defined value labels.

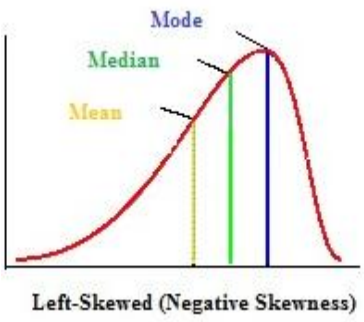
How third quintile is calculate?
1) Draw a central box (rectangle) from the first quartile to the third quartile
2) Draw a vertical line to mark the median
3) Draw horizontal lines (called whiskers) that extend from the box out to the smallest and largest observations that are not outliers
4) If there are any outliers, mark them separately

Regression analysis?
Regression analysis is a powerful statistical method that allows you to examine the relationship between two or more variables of interest. While there are many types of regression analysis, at their core they all examine the influence of one or more independent variables on a dependent variable.

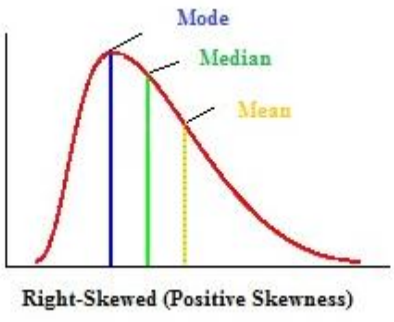
Types of events?
Mutually Exclusive Events • Collectively Exhaustive Events • Equally Likely Events • Independent and Dependent Events.

Box and Whisker Plot Steps?
A useful visual device for communicating the information contained in a dataset. • Sometimes simply called "Box Plot". • Makes use of the quartiles.
Step 1: Represent the variable of interest on the horizontal axis.
Step 2: Draw a box in the space above the horizontal axis in such a way that the left end of the box aligns with the lower Quartile i.e. Q1 and the right end of the box aligns with the upper quartile i.e. Q3 .
Step 3: Divide the box into two parts by a vertical line that aligns with the median i.e. Q2 .
Step 4: Draw a horizontal line called whisker from the left end of the box to a point that aligns with the smallest measurement in the data set.
Step 5: Draw another horizontal line or whisker from the right end of the box to a point that aligns with the largest measurement in the data set.
Box and Whisker plot provides a very quick summary of our quantitative variable irrespective of it to be Symmetric or Skewed. Box and Whisker plot is drawn for quantitative variables only. If we want to see the distribution of a quantitative variable across different levels of a qualitative variable then Box plots provides a good and quick summary.

Show negative and Positive Skewed?
That's because there is a long tail in the negative direction on the number line. The mean is also to the left of the peak. A right-skewed distribution has a long right tail. Right-skewed distributions are also called positive-skew distributions.



Left-Skewed (Negative Skewness)

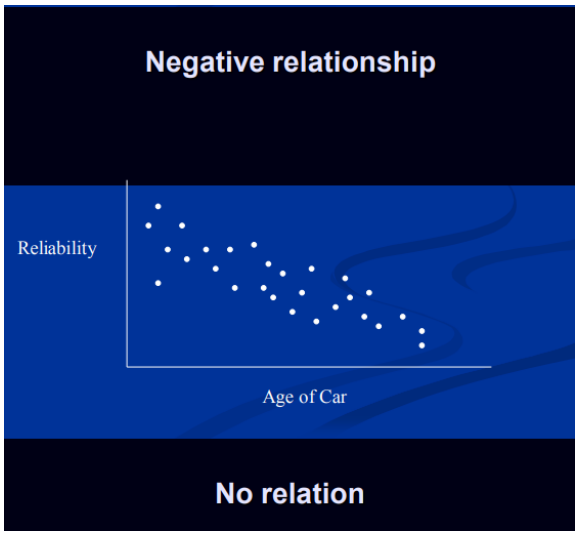


Right-Skewed (Positive Skewness)

How to plot regression line?
Click „Graphs," „Legacy Dialogs," „Interactive," and „Scatterplot" from the main menu. Drag „Current Salary" into the vertical axis box and „Beginning Salary" in the horizontal axis box. Click „Fit" bar. Make sure the Method is regression in the Fit box. Then click „OK".

Variable Editor of SPSS?
??????????? In PPTS Variable View….

Show negative relationship with help of graph?



What are requirements of sample in CRT?
??????????

Differentiate metal and nonmetal according to box plot?
??????????

Explain the additive role with exclusive event?
The Additive Rule of Probability. ... We can rephrase the definition as follows: The probability that either event or event occurs is equal to the probability that event occurs plus the probability that event occurs minus the probability that both occur.

How subject help in disease patient and non-disease patient?
o Ideally all subjects having the disease should be classified as "having the disease" and vice versa.
o Practically, we must be aware of the fact that "Tests are not always infallible".
o The ability to classify individuals into the correct disease status depends on the accuracy of the tests, among other things

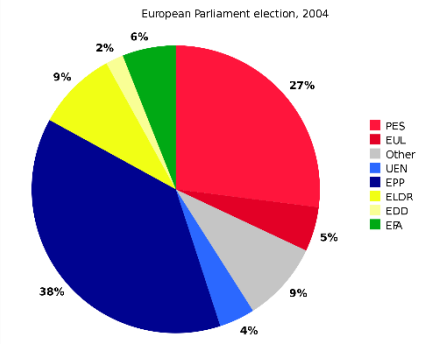
Explain regression equation?
Regression equation describes the regression line mathematically ν Intercept ν Slope **(PPTS)**
A linear regression line has an equation of the form Y = a + bX, where X is the explanatory variable and Y is the dependent variable. The slope of the line is b, and a is the intercept (the value of y when x = 0). **(Internet)**

What is PPO and YCP?
PPO = Polyphenol Oxidase activity
YPC = Yellow Pigment Content.

Why complimentary event are mutually exclusive but mutually exclusive are not complimentary event?
Complementary & Mutually Exclusive Events. Complementary events are two outcomes of an event that are the only two possible outcomes. This is like flipping a coin and getting heads or tails. ... Rolling a die and getting a 1 or 2 are not complementary since there are other outcomes that may happen (3, 4, 5, or 6).

Mutually exclusive events cannot happen at the same time. For example: when tossing a coin, the result can either be heads or tails but cannot be both. Events are independent if the occurrence of one event does not influence (and is not influenced by) the occurrence of the other(s).

Pie Char Draw?

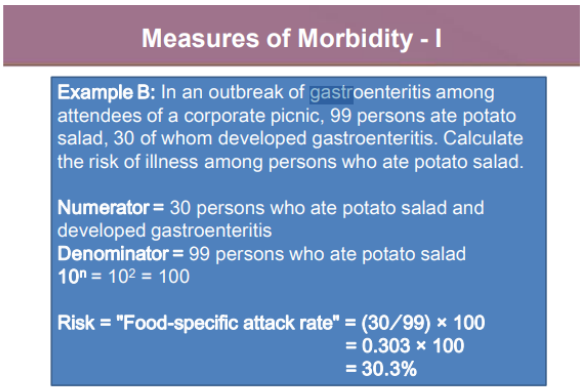


N=5 and P=0.60 then find binomial trial?

PPTS (Binomial Distribution-1)

Comparison of absolute measure and relative measure variable?
There are two ways to measure numerical data. The absolute quantity is a measure of the absolute occurrence of the variable. It is a "sheer" number. ... The relative quantity is generally an absolute quantity divided by some other quantity.

99 People are salad, 30 out of which were ill by gastro disease, then probability of illness?



Classical probability how it's difficult to draw a frame?
Classical probability is the statistical concept that measures the likelihood of something happening, but in a classic sense, it also means that every statistical experiment will contain elements that are equally likely to happen.

Responsibility of team leader during computing profession?
A team leader is responsible for guiding a group of employees as they complete a project. They are responsible for developing and implementing a timeline their team will use to reach its end goal. Some of the ways team leaders ensure they reach their goals is by delegating tasks to their members, including themselves.

Define frame?
Frame – list of elements that sample selected from (ASW, 258). Eg. telephone book, city business directory. May be able to construct a frame.