


DAILY ASSESSMENT FORMAT


Date:	17-06-2020	Name:	Prajwal Kamagethi Chakravarti P L
Course:	Statistical Learning	USN:	4AL17EC073
Topic:	Introduction to Probability. Rules for Probability Calculation. Bayes theorem Normal distribution	Semester & Section:	6th & B
GitHub Repository:	https://www.github.com/alvas-education-foundation/Prajwal-Kamagethi.git		

FORENOON SESSION DETAILS

Image of session

The screenshot displays the Great Learning platform interface. At the top, there's a navigation bar with 'Home', 'Live Sessions', and 'Certificates'. A 'My Courses' button and a user profile icon are on the right. Below the navigation bar, the breadcrumb trail reads 'Courses / Statistical Learning / Rules for Probability calculation'. The main content area is titled 'Rules for Probability calculation' and features a sidebar with a 'Content' menu. The menu includes 'Learning Videos' (with sub-items: Agenda, Case study on statistics and Probability Theory, Solution for case study, Introduction to Probability, Rules for Probability calculation, Bayes' Theorem, Normal Distribution) and 'Learning Material' (with sub-items: Quiz, Claim Your Course Certificate). The main content area shows the 'Rules for Computing Probability' section, specifically '1) Addition Rule -Mutually Exclusive Events'. It includes the formula $P(A \cup B) = P(A) + P(B)$ and a text explanation: 'This rule says that the probability of the union of A and B is determined by adding the probability of the events A and B. Here the symbol $A \cup B$ is called A union B meaning A occurs, or B occurs or both A and B simultaneously occur. When A and B are mutually exclusive, A and B cannot simultaneously occur.' Navigation buttons for 'Previous' and 'Next' are at the bottom.


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Content

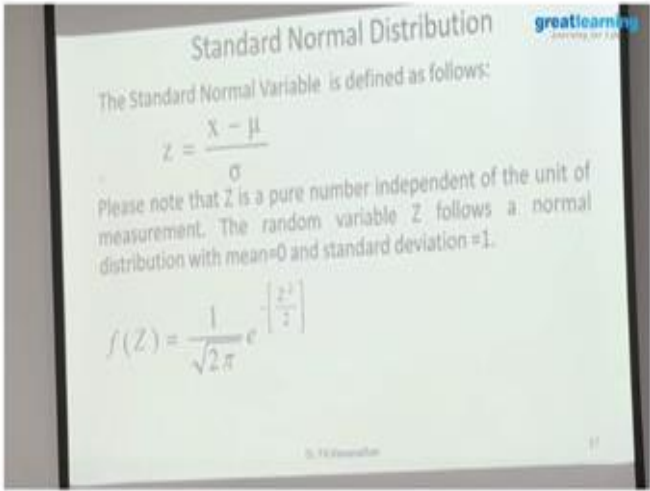
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Normal Distribution



Report –

Probability:

Probability is the science of how likely events are to happen. At its simplest, it's concerned with the roll of a dice, or the fall of the cards in a game. ... Probability is used, for example, in such diverse areas as weather forecasting and to work out the cost of your insurance premiums.

Rules for Probability Calculation:

Before discussing the rules of probability, we state the following definitions:

- Two events are mutually exclusive or disjoint if they cannot occur at the same time.
- The probability that Event A occurs, given that Event B has occurred, is called a conditional probability. The conditional probability of Event A, given Event B, is denoted by the symbol $P(A|B)$.
- The complement of an event is the event not occurring. The probability that Event A will not occur is denoted by $P(A')$.
- The probability that Events A and B *both* occur is the probability of the intersection of A and B. The probability of the intersection of Events A and B is denoted by $P(A \cap B)$. If Events A and B are mutually exclusive, $P(A \cap B) = 0$.
- The probability that Events A or B occur is the probability of the union of A and B. The probability of the union of Events A and B is denoted by $P(A \cup B)$.

- If the occurrence of Event A changes the probability of Event B, then Events A and B are dependent. On the other hand, if the occurrence of Event A does not change the probability of Event B, then Events A and B are independent.

Rule of Subtraction:

- The probability of an event ranges from 0 to 1.
- The sum of probabilities of all possible events equals 1.

The rule of subtraction follows directly from these properties.

Rule of Multiplication:

The rule of multiplication applies to the situation when we want to know the probability of the intersection of two events; that is, we want to know the probability that two events (Event A and Event B) both occur.

Rule of Addition:

The rule of addition applies to the following situation. We have two events, and we want to know the probability that either event occurs.

Bayes' theorem:

- In probability theory and statistics, Bayes' theorem (alternatively Bayes' theorem, Bayes' law or Bayes's rule) describes the probability of an event, based on prior knowledge of conditions that might be related to the event.
- For example, if the risk of developing health problems is known to increase with age, Bayes's theorem allows the risk to an individual of a known age to be assessed more accurately than simply assuming that the individual is typical of the population as a whole.
- One of the many applications of Bayes's theorem is Bayesian inference, a particular approach to statistical inference. When applied, the probabilities involved in Bayes' theorem may have different probability interpretations.
- With Bayesian probability interpretation, the theorem expresses how a degree of belief, expressed as a probability, should rationally change to account for the availability of related evidence. Bayesian inference is fundamental to Bayesian statistics.
- Bayes's theorem is named after Reverend Thomas Bayes , who first used conditional probability to provide an algorithm (his Proposition 9) that uses evidence to calculate limits on an unknown parameter, published as An Essay towards solving a Problem in the Doctrine of Chances (1763).

- In what he called a scholium, Bayes extended his algorithm to any unknown prior cause. Independently of Bayes, Pierre-Simon Laplace in 1774, and later in his 1812 Theory analytique des probabilités, used conditional probability to formulate the relation of an updated posterior probability from a prior probability, given evidence.
- Sir Harold Jeffreys put Bayes's algorithm and Laplace's formulation on an axiomatic basis, writing that Bayes's theorem "is to the theory of probability what the Pythagorean theorem is to geometry

Normal distribution:

- Normal distribution, also known as the Gaussian distribution, is a probability distribution that is symmetric about the mean, showing that data near the mean are more frequent in occurrence than data far from the mean.
- In graph form, normal distribution will appear as a curve. The normal distribution is the most common type of distribution assumed in technical stock market analysis and in other types of statistical analyses.
- The standard normal distribution has two parameters: the mean and the standard deviation. For a normal distribution, 68% of the observations are within +/- one standard deviation of the mean, 95% are within +/- two standard deviations, and 99.7% are within +/- three standard deviations.
- The normal distribution model is motivated by the Central Limit Theorem. This theory states that averages calculated from independent, identically distributed random variables have approximately normal distributions, regardless of the type of distribution from which the variables are sampled (provided it has finite variance).
- Normal distribution is sometimes confused with symmetrical distribution. Symmetrical distribution is one where a dividing line produces two mirror images, but the actual data could be two humps or a series of hills in addition to the bell curve that indicates a normal distribution.

Certificate:



Certificate of completion

Presented to

Prajwal Kamagethi Chakrvarti P L

For successfully completing a free online course
Statistical Learning

Provided by
Great Learning Academy
(On June 2020)

To verify this certificate visit verify.greatlearning.in/LXTALEWJ

Date:	17-06-2020	Name:	Prajwal Kamagethi Chakravarti P L
Course:	MySQL	USN:	4AL17EC073
Topic:	PHP Functions	Semester &Section:	6 th & B
GitHub repository	https://www.github.com/alvas-education-foundation/Prajwal-Kamagethi.git		
AFTERNOON SESSION DETAILS			
Image of session			

116. Built In Functions Date And Time

Examples of php built-in date functions

format NOW to UNIX format: `echo strtotime("now");` 1280429006

format NOW to UNIX microtime format: `echo time();` 1280429006

format NOW to UNIX microtime format: `echo microtime();` 0.63475200 1280429006

format NOW to MySQL format: `echo date("Y-m-d H:i:s", strtotime("now"));` 2010-07-29 19:43:26

format NOW to MySQL format: `echo date("Y-m-d H:i:s");` 2010-07-29 19:43:26

format 2 hours hence to human format: `echo date("D j M Y H:i:s", strtotime("+2 hours"));` Thu 29 Jul 2010 21:43:26

format 7 days hence to human format: `echo date("D j M Y H:i:s", strtotime("+7 days"));` Thu 5 Aug 2010 19:43:26

The second part of it is the same as time but we get a number of microseconds into that second to quite

format tomorrow to human format: `echo date("D j M Y H:i:s", strtotime("tomorrow"));` Fri 30 Jul 2010 00:00:00

format tomorrow to human format: `echo date("D j M Y H:i:s", strtotime("+1 day"));` Fri 30 Jul 2010 19:43:26

121. Array Functions: sort And unique

I saw it once again delete the code between the test comments and insert our test for a re unique array

You already have seen many functions like `fopen ()` and `fread ()` etc. They are built-in functions but PHP gives

There are two parts which should be clear to you –

- **Creating a PHP Function**

- **Calling a PHP Function**

In fact, you hardly need to create your own PHP function because there are already more than 1000 of builtin library functions created for different area and you just need to call them according to your requirement.

Please refer to PHP Function Reference for a complete set of useful functions.

Creating PHP Function

Its very easy to create your own PHP function. Suppose you want to create a PHP function which will simply

write a simple message on your browser when you will call it. Following example creates a function called

write Message () and then calls it just after creating it.

PHP Functions with Parameters

PHP gives you option to pass your parameters inside a function. You can pass as many as parameters your

like. These parameters work like variables inside your function. Following example takes two integer

parameters and add them together

```
<html>
<head>
<title>Writing PHP Function with Parameters</title>
</head>
<body>
<?php
function addFunction ($num1, $num2) {
$sum = $num1 + $num2;
echo "Sum of the two numbers is: $sum";
}
addFunction (10, 20);
?>
</body>
</html>
```

Using external files and images:

You can save your uploading images in the database table for later use e.g. display user profile or product

image, create the image gallery, etc.

There are two ways of doing this –

- Save the path or name of an image
- Encode image into a base64 format

Table structure:

- name – This field is used to store the image file name.
- image – This field is used to store the image base64 generated value.

Configuration

- Create a new config.php file for database configuration.
- Save path or name, You can either save the full path or name of an image in your MySQL database table. Retrieve the image name or path from the MySQL database and use it to make an image source.
- Here, we are storing the file name in the MySQL database.