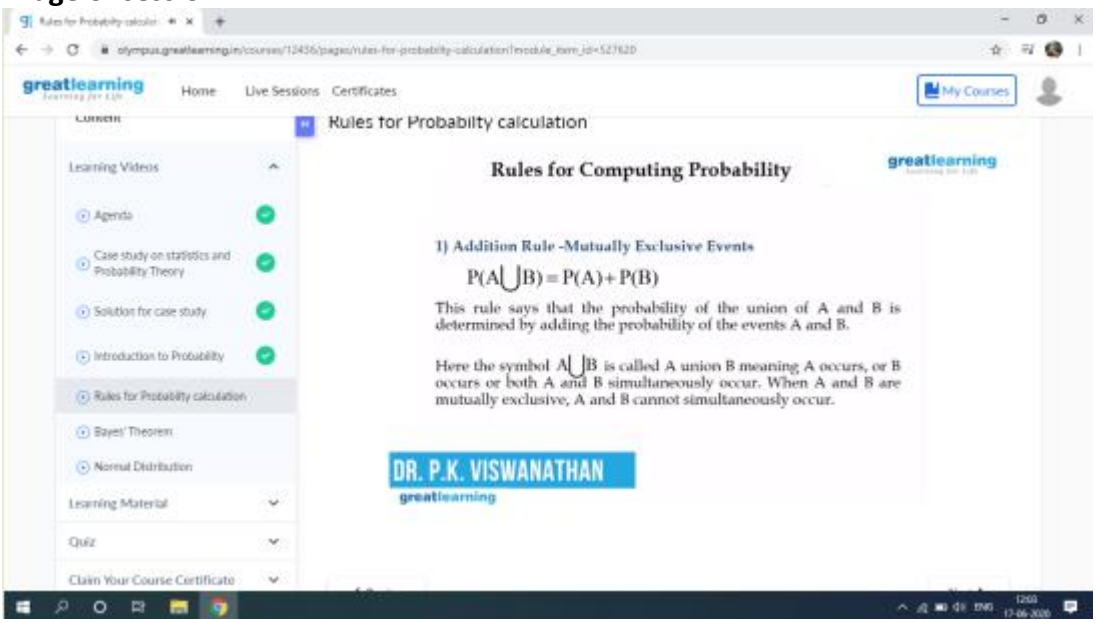
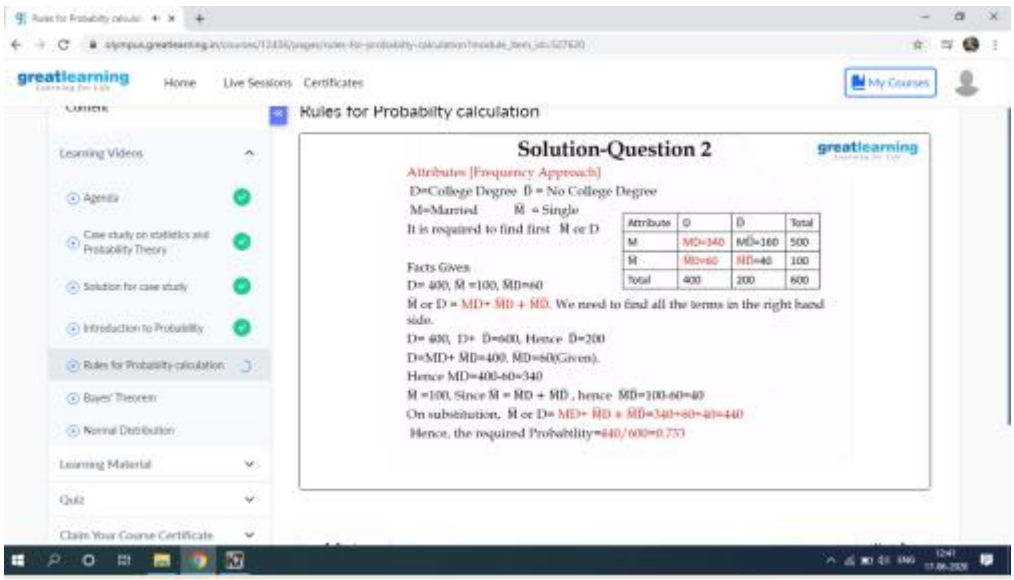
DAILY ASSESSMENT FORMAT

Date:	17-06-2020	Name:	Sahana S R
Course:	Statistical Learning	USN:	4AL17EC083
Topic:	Introduction to Probability, Rules for Probability Calculation, Bayes theorem Normal distribution	Semester & Section:	6th sem 'B' sec
Github Repository:	sahanasr-coures		

FORENOON SESSION DETAILS

Image of session





Introduction to 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's theorem, Bayes's law or Bayes's rule) describes the probability of an event, based on prior knowledge of conditions that might be related to the event.[1] 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 (/beɪz/; 1701?–1761), 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 Théorie 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 bell 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.

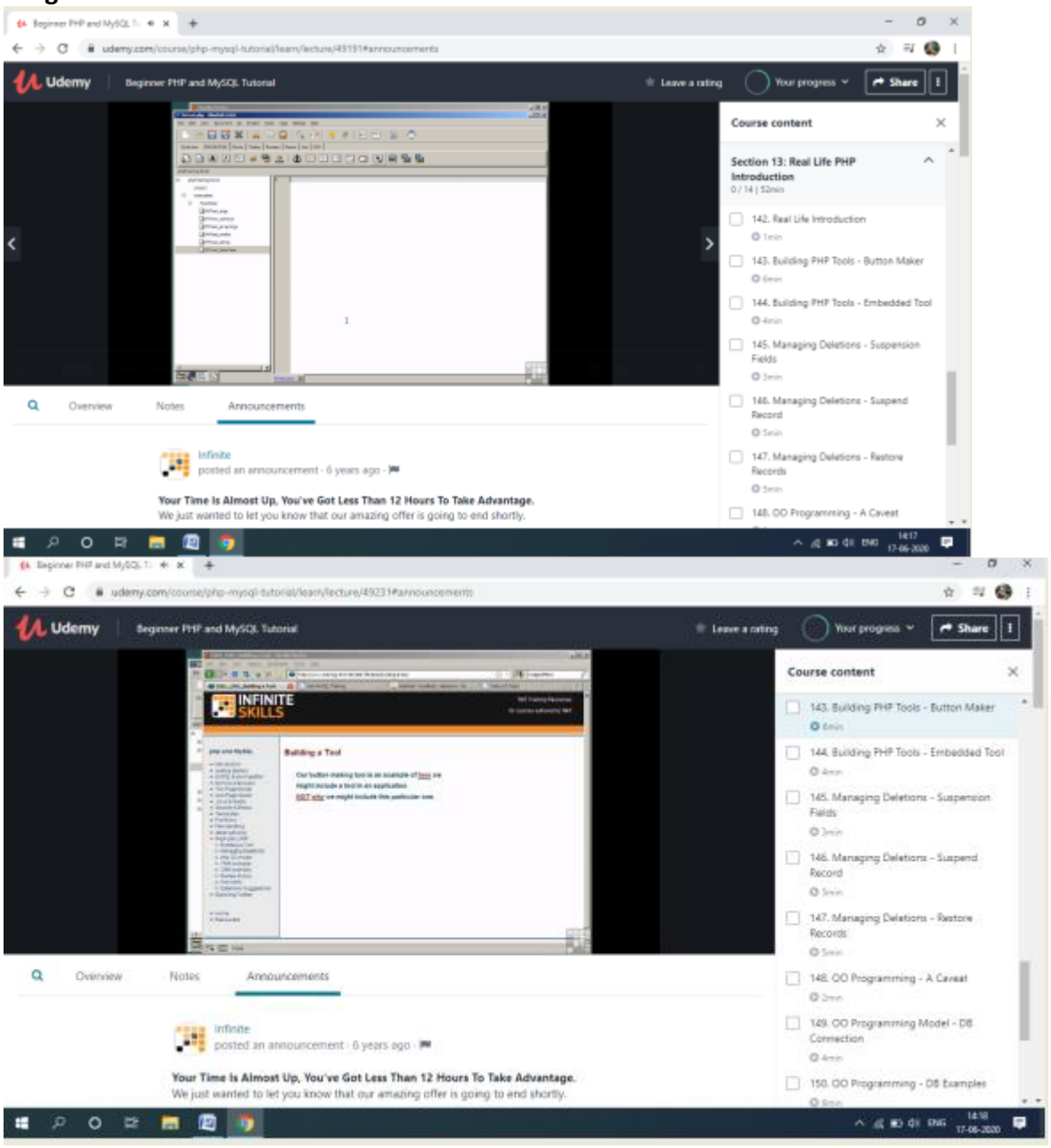

greatlearning
Learning for Life
Certificate of completion
Presented to
Sahana S R
For successfully completing a free online course
Statistical Learning
Provided by
Great Learning Academy
(On June 2020)
To verify this certificate visit verify.greatlearning.in/HJGOMOMO

DAILY ASSESSMENT FORMAT

Date:	**17-06-2020**	**Name:**	**Sahana S R**
Course:	**udemy**	**USN:**	**4AL17EC083**
Topic:	**mysql**	**Semester & Section:**	**6th sem 'B' sec**
Github Repository:	**sahanasr-course**		

AFTERNOON SESSION DETAILS

Image of session



PHP debugging tools

1. Xdebug

Since it debuted in 2002, Xdebug has become one of the most trusted PHP tools. This open source solution enables single-step debugging and stack trace functionality. Available as a plugin for Eclipse, PHPDesigner and most other development environments, Xdebug is compatible with dozens of other frontend debugging tools.

2. DebugBar
is a useful tool for any developer since it can catch HTML and JavaScript bugs as well. Additionally, DebugBar can monitor network traffic, inspect CSS elements and evaluate your JavaScript code. That may be more features than you need, but it's pretty impressive for an open source solution.

3. MacGDBp
As its name suggests, MacGDBp was made specifically for debugging PHP on Mac. Combine it with the Xdebug extension to view local variables and call stacks in a macOS interface.

Object-oriented programming (**OOP**)

It is a programming paradigm based on the concept of "objects", which can contain data, in the form of fields (often known as attributes or properties), and code, in the form of procedures (often known as methods). A feature of objects is an object's procedures that can access and often modify the data fields of the object with which they are associated (objects have a notion of "this" or "self"). In OOP, computer programs are designed by making them out of objects that interact with one another.[1][2] OOP languages are diverse, but the most popular ones are class-based, meaning that objects are instances of classes, which also determine their types.

Many of the most widely used programming languages (such as C++, Java, Python, etc.) are multi-paradigm and they support object-oriented programming to a greater or lesser degree, typically in combination with imperative, procedural programming. Significant object-oriented languages include Java, C++, C#, Python, R, PHP, JavaScript, Ruby, Perl, Object Pascal, Objective-C, Dart, Swift, Scala, Kotlin, Common Lisp, MATLAB, and Smalltalk.

Object-oriented programming (OOP) is a computer programming model that organizes software design around data, or objects, rather than functions and logic. An object can be defined as a data field that has unique attributes and behavior.

Shared with non-OOP predecessor languages

- Variables that can store information formatted in a small number of built-in data types like integers and alphanumeric characters. This may include data structures like strings, lists, and hash tables that are either built-in or result from combining variables using memory pointers.
- Procedures – also known as functions, methods, routines, or subroutines – that take input, generate output, and manipulate data. Modern languages include structured programming constructs like loops and conditionals.

Modular programming support provides the ability to group procedures into files and modules for organizational purposes. Modules are namespaced so identifiers in one module will not conflict with a procedure or variable sharing the same name in another file or module.

Objects and classes:

Languages that support object-oriented programming (OOP) typically use inheritance for code reuse and extensibility in the form of either classes or prototypes. Those that use classes support two main concepts:

- Classes – the definitions for the data format and available procedures for a given type or class of object; may also contain data and procedures (known as class methods) themselves, i.e. classes contain the data members and member functions
- Objects – instances of classes

Objects sometimes correspond to things found in the real world. For example, a graphics program may have objects such as "circle", "square", "menu". An online shopping system might have objects such as "shopping cart", "customer", and "product".[7] Sometimes objects represent more abstract entities, like an object that represents an open file, or an object that provides the service of translating measurements from U.S. customary to metric