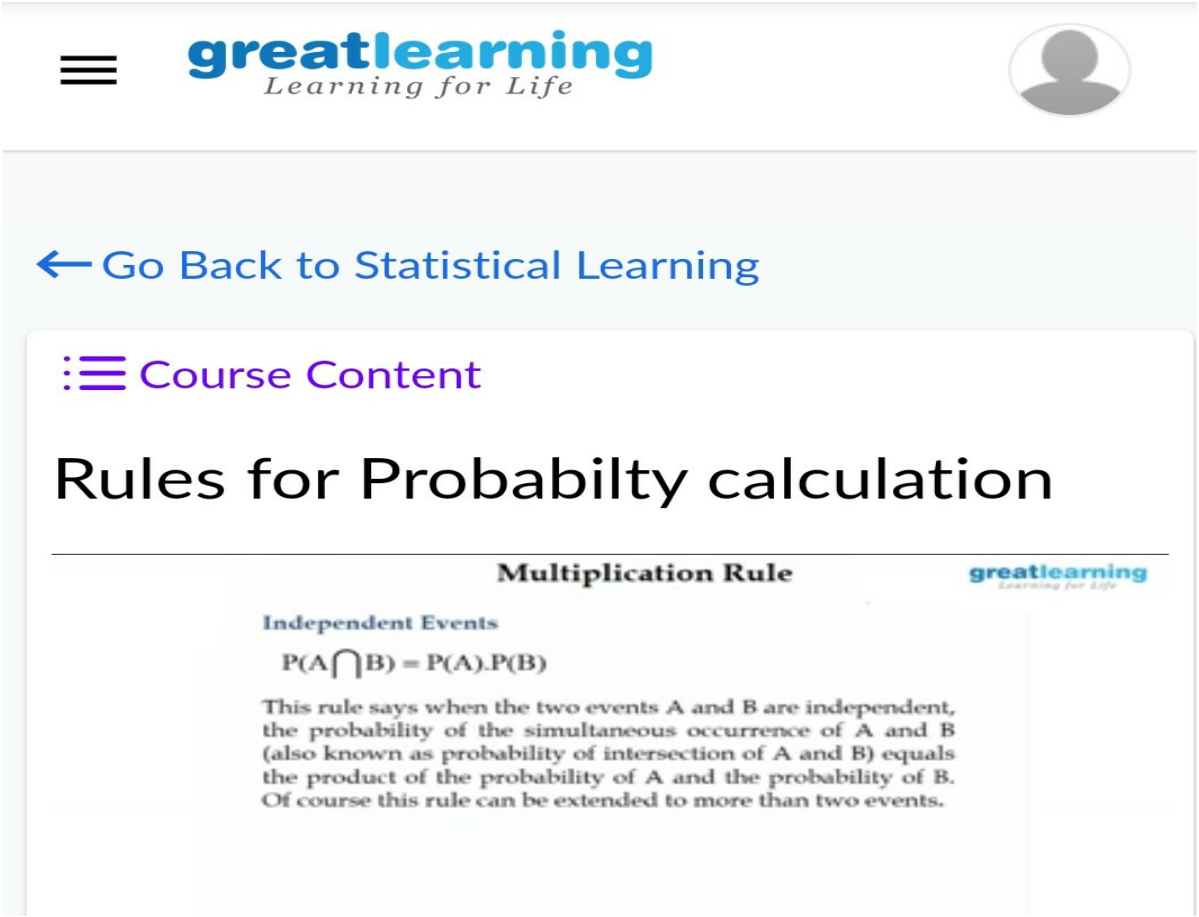
DAILY ASSESSMENT FORMAT

Date:	18-06-2020	Name:	Abhishek
Course:	Statistical Learning	USN:	4al17ec001
Topic:	All topics	Semester & Section:	6 & 'A'
Github Repository:	Abhishek-online-courses		

FORENOON SESSION DETAILS

Image of session



Report –

Introduction to Probability:

- Probability means possibility.
- It is a branch of mathematics that deals with the occurrence of a random event.
- The value is expressed between zero and one.
- Probability has been introduced in Maths to predict how likely events are to happen.

Rules for Probability Calculation

- **Rule of Subtraction -** The probability that event A will occur is equal to 1 minus the probability that event A will not occur.

$$P(A) = 1 - P(A')$$

- **Rule of Multiplication** - The probability that Events A and B both occur is equal to the probability that Event A occurs times the probability that Event B occurs, given that A has occurred.

$$P(A \cap B) = P(A)\ P(B|A)$$

- **Rule of Addition -** The probability that Event A or Event B occurs is equal to the probability that Event A occurs plus the probability that Event B occurs minus the probability that both Events A and B occur.

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

Bayes theorem:

- **Bayes' Theorem** is a way of finding a probability when we know certain other probabilities.
- The formula is:

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

- Which tells us:

how often A happens given that B happens, written P(A|B),

- When we know:

  how often B happens given that A happens, written P(B|A)

  and how likely A is on its own, written P(A)

  and how likely B is on its own, written P(B)

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.