

Week 1: Predictive Modelling (Total video duration= 4 hours. You will be required to spend 50 minutes/day along with practicing datasets and quizzes)

Mentor Session Duration: 2 hours

Faculty Name: Prof. Mukesh Rao

Number of videos: 24

Learning Outcomes from the Module:

After learning from this module, learners will be able to understand:

▶ **Concept of Linear Regression**

▶ **Concept of Multicollinearity**

▶ **Logistic Regression Learning Process**

▶ **Logistic Regression Variants**

▶ **LDA - How does it work**



Mentor Session Duration:
2 hours

Faculty Name:
Prof. Mukesh Rao

No. of videos:
24

Video No.	Video Name	Duration of the video	Topics Covered	Conceptual or Hands On
1	Linear Regression TOC	09:00	<ul style="list-style-type: none"> List of sub-topics to be covered in Linear Regression 	Conceptual
2	Introduction to Linear Regression and how it is built Part 1	23:00	<ul style="list-style-type: none"> Linear Regression Model 	Conceptual
3	Introduction to Linear Regression and how it is built Part 2	20:00	<ul style="list-style-type: none"> Linear Regression Model Continued 	Conceptual
4	Summary - Introduction to Linear Regression and How it is built	00:45	<ul style="list-style-type: none"> Summarisation of the Linear Regression Concept and the Model 	Conceptual
5	Best Fit Line	17:00	<ul style="list-style-type: none"> Accuracy of Linear Regression Model Coefficient of Determinant 	Conceptual

Mentor Session Duration:
2 hours

Faculty Name:
Prof. Mukesh Rao

No. of videos:
24

Video No.	Video Name	Duration of the video	Topics Covered	Conceptual or Hands On
6	Summary - Best Fit Line	00:40	<ul style="list-style-type: none"> Summarisation of Best Fit Line Concept 	Conceptual
7	Structure of Linear Regression	06:00	<ul style="list-style-type: none"> Structure of Linear Models 	Conceptual
8	Summary - Structure of Linear Regression	00:30	<ul style="list-style-type: none"> Summarisation of Linear Regression Structure 	Conceptual
9	Ordinary Least Square Method and Gradient Descent Method	09:00	<ul style="list-style-type: none"> Ordinary Least Squares Gradient Descent Method 	Conceptual
10	Summary – Ordinary Least Square Method and Gradient Descent Method	01:00	<ul style="list-style-type: none"> Summarisation of Ordinary Least Squares and Gradient Descent Method 	Conceptual

Mentor Session Duration:
2 hours

Faculty Name:
Prof. Mukesh Rao

No. of videos:
24

Video No.	Video Name	Duration of the video	Topics Covered	Conceptual or Hands On
11	Hands On Exercise - Multivariate Linear Regression Model Part 1	27:00	<ul style="list-style-type: none"> Hands On exercise on Multivariate Linear Regression 	Hands On
12	Hands On Exercise - Multivariate Linear Regression Model Part 2	23:00	<ul style="list-style-type: none"> Hands On exercise on Multivariate Linear Regression 	Hands On
13	Hypothesis Testing for Linear Regression	18:00	<ul style="list-style-type: none"> Hypothesis Testing concept used in Linear Regression 	Hands On
14	Summary - Hypothesis Testing for Linear Regression	00:35	<ul style="list-style-type: none"> Summarisation of Hypothesis Testing concept used in Linear Regression 	Conceptual
15	Hands On Exercise - Multivariate Linear Regression Model Part 3	09:00	<ul style="list-style-type: none"> Hands On exercise on Multivariate Linear Regression 	Hands On

Mentor Session Duration:
2 hours

Faculty Name:
Prof. Mukesh Rao

No. of videos:
24

Video No.	Video Name	Duration of the video	Topics Covered	Conceptual or Hands On
16	Summary - Hands On Exercise on Multivariate Linear Regression Model	00:25	<ul style="list-style-type: none"> Summarisation of Hands on exercise on Multivariate Linear Regression Model 	Conceptual
17	Assumptions of Linear Regression	11:00	<ul style="list-style-type: none"> Regression Model Assumptions 	Conceptual
18	Summary - Assumptions of Linear Regression	00:30	<ul style="list-style-type: none"> Summarisation of various assumptions of Linear Regression 	Conceptual
19	Multi-Collinearity and its hands-on	06:00	<ul style="list-style-type: none"> Concept of Multi-Collinearity Types of Multi-Collinearity Testing of multi-collinearity with Variation Inflation Factor 	Conceptual + Hands On
20	Summary - Multi-Collinearity and its hands-on	02:00	<ul style="list-style-type: none"> Summarisation of Multi-Collinearity and Hands On 	Conceptual

Mentor Session Duration:
2 hours

Faculty Name:
Prof. Mukesh Rao

No. of videos:
24

Video No.	Video Name	Duration of the video	Topics Covered	Conceptual or Hands On
21	Testing for Linear Regression Assumptions	03:00	<ul style="list-style-type: none"> Testing for violation of the assumptions 	Conceptual
22	Summary - Testing for Linear Regression Assumptions	00:15	<ul style="list-style-type: none"> Summarization of Testing for violation of the assumptions 	Conceptual
23	Applications of Linear Regression	14:00	<ul style="list-style-type: none"> Applications of Linear Regression Advantages & Disadvantages of Linear Regression 	Conceptual
24	Summary - Applications of Linear Regression	00:10	<ul style="list-style-type: none"> Summarization of Applications of Linear Regression 	Conceptual

Few textbooks that you can refer to:

1

Ashish Kumar

Learning Predictive Analytics with Python

2

Thomas W. Miller

Modeling Techniques in Predictive Analytics
with Python and R - A Guide to Data Science

3

Alvaro Fuentes

Hands-On Predictive Analytics with Python

