



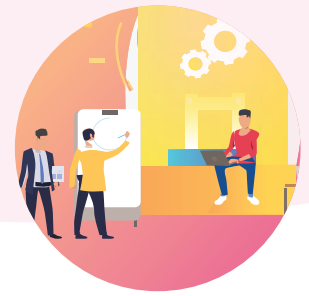
INTRODUCTION TO DATA SCIENCE

During these classes, students will explore and understand different types of data and their real life applications, They will be introduced to the working of Google Sheets and will learn how to run basic math operations to analyze data and represent it using different types of charts and infographics. During the data analysis module they will learn the Python Pandas library commands to create tables, insert data in them and print it. They will also learn how to read data from the CSV file and create dataframes to analyze data.

SESSION	CONCEPT	SKILLS
01	Introduction To Data And Data Science	Exploration, Observation Exploring what is data, information and data science. Exploring areas where data science is used in everyday life.
02	Introduction To Google Sheets - I	Exploration, Observation Organise, analyse, and store data using Google spreadsheets - Part 1.
03	Introduction To Google Sheets - II	Exploration, Observation Organise, analyse, and store data using Google spreadsheets - Part 2.
04	Using Formulae In Google Sheets - I	Numeracy, Decomposition Doing basic math operations using formulae in a Google Spreadsheet.
05	Using Formulae In Google Sheets - II	Numeracy, Decomposition Doing basic math operations using formulae in a Google Spreadsheet.
06	Formative Assessment	Assessment of Learning
07	Event Planning	Numeracy, Decomposition Plan and calculate the cost of an event using a spreadsheet.
08	Data Visualization - I	Visualization, Analysis Context for data visualization.



09	Data Visualization - II	Visualization, Analysis Encoding data using visual cues.
10	Data Representation - I	Representation, Generalization Representing data using charts - Part 1.
11	Data Representation - II	Representation, Generalization Representing data using charts - Part 2.
12	Data Visualization Techniques	Visualization, Representation Map visualization of data in google sheet.
13	Data Cleanup - I	Numeracy, Logic Clean up of data Part 1.
14	Data Cleanup - II	Numeracy, Logic Clean up of data Part 2.
15	Introduction To Infographics	Generalization Use of infographics/infograms for data representation.
16	Creating The Infographic	Generalization Understanding the Environment - Piktochart. Creating an Infographic.
17	Formative Assessment	Assessment of Learning
18	Introduction To Data Analysis & Python Basics - I	Computation , Numeracy Recap of the concept of Data Analysis, use of variables and loops in Python. What is Pandas? and Why to use it?
19	Introduction To Data Analysis & Python Basics - II	Computation , Numeracy Recap of the concept of Data Analysis, use of variables and loops in Python. What is Pandas? and Why to use it?



20	Introduction To Data Analysis & Python Basics - III	Computation , Numeracy Recap of the concept of Data Analysis, use of variables and loops in Python. What is Pandas? and Why to use it?
21	Introduction To Pandas Series	Computation, Numeracy How to create data with Pandas: create table, insert data and print table data.
22	Introduction To Pandas DataFrames - I	Computation , Numeracy Creating of DataFrame from List , Creation of DataFrame from Series.
23	Introduction To Pandas DataFrames - II	Computation , Numeracy Operations on rows and columns in DataFrames - I and DataFrames - II.
24	Introduction To Pandas DataFrames - III	Computation , Numeracy Accessing DataFrames, Joining, Merging and Concatenation of DataFrames.
25	Introduction Pandas Statistical Functions	Computation Introduction to statistical concepts- Mean, Median, Mode.
26	Working With Text Files And .csv Files In Python - I	Computation , Numeracy Working with Text Files and .csv Files in Python - Part 1.
27	Working With Text Files And .csv Files In Python - II	Computation , Numeracy Working with Text Files and .csv Files in Python - Part 2.
28	Pandas Plotting -I	Computation , Numeracy , Data Visualization Plotting using Matplotlib, Plotting a Line chart from Dataframe.

Learning Path For YOUNG LEARNERS



29	Pandas Plotting - II	Computation , Numeracy , Data Visualization Plotting a Bar chart from Dataframe , Plotting a Pie chart from Dataframe.
30	Formative Assessment	Assessment of learning