**Lesson 1-**

* Firstly I installed the jupyter notebook.
* Implemented the to-do list and understood the basic insert, delete operation on the lists in python.

**Lesson 2-**

* Learnt the history of python and learnt how to use the jupyter notebook and why we use it.
* Learnt about notebook web application, kernels, notebook documents.
* Learnt about python syntax like how to write comments, indentation, multiline statements.
* Learnt about python basics, variables, strings and implemented various operation on string.
* Learnt about numeric types i.e. float, int , complex and different type of operators and control flows like conditional statements,loop statements control statements
* In short we can brief it like-
* **Numeric types :-**

1. Int
2. Float
3. Complex

* **Operators :-**

1. Arithmetic Operators
2. Relational (Comparison) Operators
3. Assignment Operators
4. Logical Operators
5. Bitwise Operators
6. Membership Operators
7. Identity Operators

* **Control Flow :-**

1. Conditional Statements
2. Loop statements
3. Control statements

**Lesson-3**

* Learnt the various data structures in python and implemented them like list, tuples and dictionaries and performed various operation on them.
* Learnt about functions and how to pass arguments and how to call them their advantage and different types.
* Learnt about exception handling and different type of exception and use of try, catch, finally and how to handle multiple exceptions
* Learnt how to open and close files and perform read and write in them and how to read and write in csv files.

**Lesson-4:**

* Watched the video on linear algebra, understood the concept of linear algebra and its use in mathematics and machine learning
* Linear algebra uses:-

1. Finding similarity patterns in data
2. Processing image
3. Regression

* Learnt about vectors and scalar multiplication, vector multiplication, dot product, magnitude and matrix and various operation on matrices.

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* Learnt about numpy arrays and performed basic operations on them.
* Learnt various function using numpy like Ufuncs, trignometric functions.

**Lesson-5:**

* Learnt data visualization using matplotlib.
* Learnt pyplot and its function.
* Learnt about various plots.
* Learnt different type of graph such as bar chart,pie chart

**Lesson-6:**

* Learnt pandas and dataframes.
* Learnt about dictionaries
* Performed various operations using pandas like indexing, selection, sorting and filtering.
* Learnt basic eda using pandas.

**Lesson-7:**

* Learnt hypothesis testing and statistical testing.
* Learnt data visualization basic.

**Phase-1:**

**Week-1:-**

* + Learnt eda
  + Performed eda on data
  + Performed data cleaning, preprocessing
  + Performed hypothetical testing

**Week-2:-**

* Learnt about pearson correlation coefficient and regression algorithms.
* Learnt ks test both one tailed and two tailed
* Learnt pca and dimensionality reduction

**Week-3:-**

* Learnt about data visualization using matplot and plotted various graph like scatterplot, bar graph ,pie charts, heatmap.
* Learnt visualization through tableau.
* Created dashboard using tableau

**Week-4:-**

* Learnt about time series prediction.
* Learnt Linear, logistic regression.
* Learnt random forest and decision tree algorithms.
* Worked on shuffled dataset and done eda, testing, visualization and time series prediction

**Phase-2:**

* Worked on titanic dataset, done EDA on that
* Applied visualization on that and plot various graph
* Applied feature engineering on that and created a ml model for the prediction using random forest classifier.