Assignment No-02

Q.1 State Regression Algorithm in python.

Ans:

1) **Linear Regression :-** Multiple linear regression is a statistical method used to model the relationship between a dependent variable and two or more independent variable.

2) **Polynomial Regression :-** Polynomial regression is a form of regression analysis in which the relationship between independent variable x and dependent variable y is modeled as n^{th} degree polynomial.

3) **Ridge Regression :-** Ridge Rigression is a variation of linear regression that addreses some of the issues of linear regression.

4) **Lasso Regression :-** Lasso (stands for Least Absolute skinkage and selection operator) is another variation of linear regression that address some of the issues of linear regression.

Q. 2. Describe the following term in python

Ans⁸- **1) Numpy :-** Numpy is the fundamental package for scientific Computing in python. It is a python library that provides a multidimentional array object, various derived object. At the core of the Numpy package, is the ndarray object.

2) Pandas :- Pandas is a python library used for working with data Set. It has functions for cleaning, analyzing

ex import pandas as pd
data = [[10, 20], [30, 40]]
dF = pd. Dataframe (data)
print (dF. describe()).

3) Scikit-learn :- Skikit-learn also known as sklearn is a python library to implement machine learning models and statastical modeling. Through sakit learn - we can implement various machine learning models for regression, classification, clustering.

Q.3. Justify the Data visualization with matplotlib and Seaborn in python.

Ans:- 1> Matplotlib is a lowlevel library of python which is used for data visualization.

```
import matplotlib pyplot as plt
# Initializing the data
x = [10, 20, 30, 40]
y = [20, 25, 35, 55]
plt.plot(x, y)
plt.show()
```
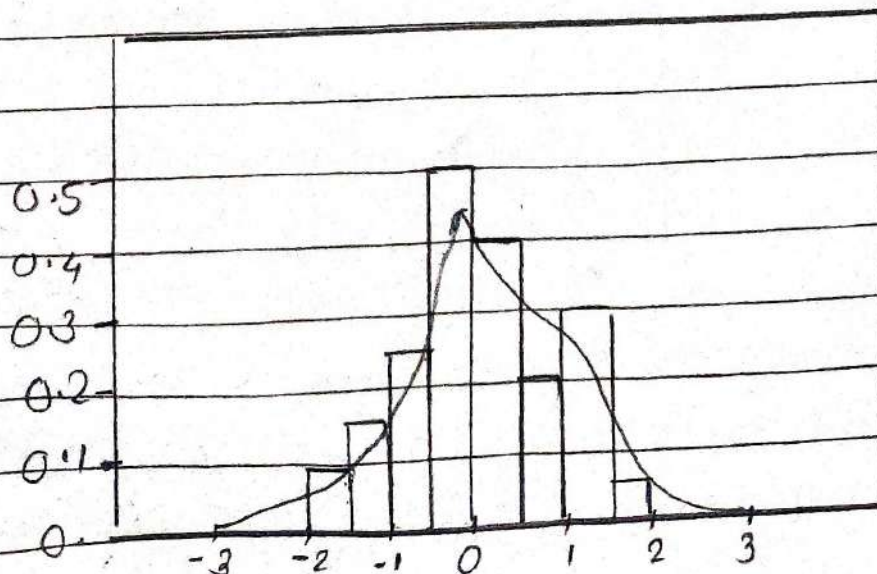
45
40
35
30
25
20

10   15   20   25   30   35   40
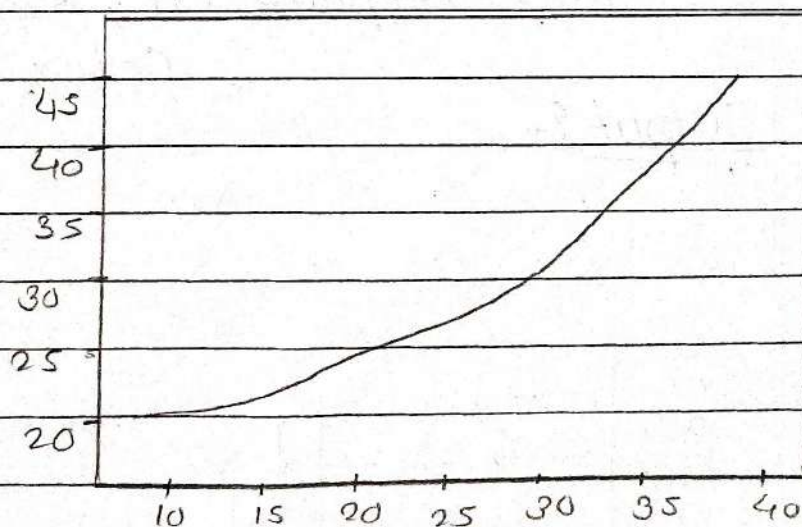
2) Seaborn :- Seaborn is an amazing visualization library for statistical graphics plotting in python.

Installation :- For python environment

`pip install Seaborn`

visualization :-

```
import numpy as np
import Seaborn as sns
sns.set(style = "white")
rs = np.random. RandomState (10)
d = rs.normal (size = 50)
sns.distplate (d, kde = true,
                  color = "g")
```

output :-

Q.4. Distinguish between supervised and unsupervised learning.

Ans:-

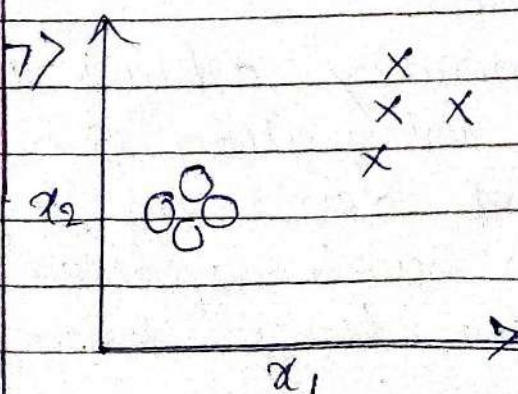| Supervised learning	unsupervised learning
1) Input data is labeled	1) Input data is unlabeled
2) Has a feedback mechanism	2) Has no feedback mechanism.
3) Data is classified based on the training dataset	3) Assign properties of given data to classify it.
4) Divided into Regression and Classification	4) Divided into clustering and Association
5) Used for prediction	5) Used for analysis
6) A know number of classes	6) A unknown number of classes.
7)	7)
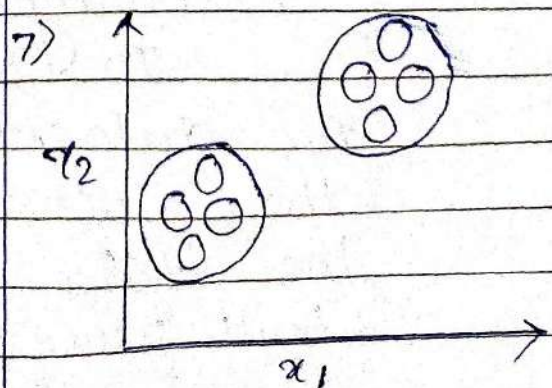
Q.5 Interpret Flask Extension for database integration Concept in python.

Ans :- 1) A Flask extension for dataset integration in python typically refers to a software library or module that extends the capabilities of the Flask web framework to make it easier to work with database and datasets.

2) Flask is a popular web framework for building web applications in support for database operations.

Here such extension might work :-

a) Database Integration

b) Data Access

c) Data Modeling

d) Database Handling

e) Integration with views

f) Security

7) Configuration.

In Summary a flask extension for dataset integration simplifies the process of working with the data in web applications built using the flask framework.