Surprise Class Test 2 – Open Book Test

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Instructions:

1. You can use ChatGPT, black-box, Google, mobile, and any resource you have, but you are not allowed to talk.
2. You have to mail (shivaagarwal@soa.ac.in) the solution of the class test in 2 hours i.e., before 5 pm (02-04-2024).
3. Attach the screenshot of the program execution with the code.

Maximum marks: 40 Marks

Question 1 – 10 marks

On the Digit dataset imported from Scikit-learn, perform the Principal Component Analysis (PCA) with 95% variance explained. Utilize the Sequential model with the following layers:

1. Input layer
2. Hidden layer with 64 neurons
3. Hidden layer with 32 neurons
4. Output layer with 10 neurons

Train the model with 70% training data and 30% testing data. Print the accuracy difference with and without PCA.

Question 2– 2 marks

Write down all the basic operations we perform on a string in Python.

Question 3 – 2 marks

What are the basic data types in Python?

Question 4 – 2 marks

Give an example of exceptional handling.

Question 5 – 8 marks

On the Digit dataset imported from Scikit-learn, perform the Principal Component Analysis (PCA) with 95% variance explained. Utilize the Linear Regression model. Use 70% of the data for training and 30% for testing.

Question 6 – 8 marks

Use Yfinance to download the stock data of any stock of your choice and use Linear Regression to predict the price of the stock for the next 2 weeks. Use 70% of the data for training and 30% for testing.

Question 7 – 8 marks

Use the Diabetes dataset and perform Principal Component Analysis (PCA) with 95% variance explained. Utilize the Logistic Regression model to predict diabetes. Use 70% of the data for training and 30% for testing.