Q1: Student Marks Analysis in Excel

Design an Excel workbook to manage and analyze marks for 10 students:

\* Include columns: Student Name, Roll Number, Semester 1 Marks, Semester 2 Marks

\* Add formulas to compute:

Final Marks as the average of the two semesters

Percentage out of 100

Grade using IF conditions (Grades: A, B, C, D)

\* In another worksheet (Sheet2), use VLOOKUP to fetch the marks of any two students based on their Roll Number

Q2: Fibonacci Series Generator Script

Create a Python script that generates the Fibonacci sequence up to a specified number of terms.

\* Accept the number of terms (n) as input from the user

\* Display the full sequence

Q3: SQL Category-wise Product Analysis

Create a table called product with columns: product\_id, product\_name, category, and price.

\* Insert at least 6 sample products across 2 or 3 different categories

\* Write an SQL query that calculates the average price for each product category using GROUP BY

Q4: Clean and Process Raw Dataset Using Python

Write a Python program to clean a dataset containing messy data. Perform the following tasks:

\* Eliminate duplicate rows

\* Fill missing fields like name, salary, and join date

\* Convert data types for columns like age and salary appropriately

\* Identify and remove salary outliers

\* Save the processed dataset to a new file

Q5: Predictive Modeling with Linear Regression

Develop a linear regression model in Python that predicts salary based on years of experience:

\* Create a dataset with two columns: Years of Experience and Salary

\* Train/test split the data and fit a linear regression model

\* Plot a scatter graph with the regression line

Q6: Building a Perceptron Using Keras

Train a Single Layer Perceptron (SLP) model using the Keras library:

\* Use a DataFrame as input

\* Train the model on a classification dataset

\* Evaluate and display the model’s accuracy

Q7: Raw Text Cleaning Function in Python

Implement a Python function that takes in raw text and performs the following preprocessing steps:

\* Converts all text to lowercase

\* Removes punctuation and special symbols

\* Splits the text into individual words

\* Filters out common stopwords