CMPICA CHARUSAT BCA SEM-V

CA325: LAB Assignment-2 on PANDAS

1	Create a Dataframe for generating random marks. The dataframe columns should consists of five subjects and 6 tests. Marks should be in integer. Test 1 to 4 consists of 0 to 10 marks Test 5 consists of 0 to 30 marks Test 6 consists of 0 to 70 marks
2	You are given sales data for a retail store for one week. The data includes the day of the week, item sold, quantity sold, and price per item. Create a DataFrame using this data. **Data:** • Days(Mon to Sun) • Items: (all fruits) • Quantities: (in numbers) • Prices: (any real prices) **Question:** Create a DataFrame using the above data and display it.
3	A company wants to analyze the performance of its employees based on their working hours and projects completed in a month. The data includes employee names, department, hours worked, and projects completed. **Data:** • Employees: (name of emp) • Departments: (name of dept) • Hours Worked: (in numbers) • Projects Completed: (in numbers) **Question:** Create a DataFrame from a dictionary and display it.
4	Creating a weather report for a city over a week. The data includes the day of the week, temperature, humidity, and weather condition. **Data:** • Days: (mon to sun) • Temperatures: [22, 24, 19, 21, 25, 23, 20]/ generate random numbers • Humidity: [80, 82, 78, 75, 77, 79, 81]/ generate random numbers • Conditions: (rainy, cloudy, sunny) **Question:** Create a DataFrame using a list of dictionaries and display it.

5	A Faculty wants to record the grades of students in a class for three subjects: C language, DBMS and Data Science. The data includes student names, their grades in each subject, and the average grade. **Data:** • Students: [name of students] • C language Grades: create randomly integer grades from 0 to 100 • DBMS Grades: create randomly integer grades from 0 to 100 • DataScience Grades: create randomly integer grades from 0 to 100 **Question:** Create a DataFrame using NumPy arrays and calculate the average grade for each student. Add the average grade as a new column to the DataFrame and display it.
6	A bank wants to keep track of financial transactions made by customers over a period of one week. The data includes the transaction ID, customer ID, amount, and date of transaction. **Data:** • Transaction IDs: [101, 102, 103, 104, 105]/ generate sequence • Customer IDs: [1, 2, 3, 1, 2] • Amounts: [100.88, 200, 150, 3000, 250] • Dates: [give any dates] **Question:** Create a DataFrame from a list of tuples and display it.
7	A company wants to analyze customer purchase behaviour over a month. You need to create a DataFrame to represent this data. The data includes customer ID, the number of purchases, the total amount spent, and a randomly assigned customer satisfaction score. **Tasks:** 1. Create a DataFrame with 100 customers. Customer IDs should be unique and range from 1 to 100. 2. Generate the number of purchases randomly between 1 and 20 for each customer. 3. Generate the total amount spent randomly between 100 and 2000. 4. Assign a customer satisfaction score randomly between 1 and 5. 5. Calculate the average amount spent per purchase for each customer and add it as a new column.