

Assignment-8

Question 1: Create a Pandas DataFrame from the dictionary:

```
data = {'Name': ['Alice', 'Bob', 'Charlie'],  
        'Age': [25, 30, 35],  
        'City': ['New York', 'Los Angeles', 'Chicago']}
```

Display the DataFrame and its shape.

Question 2: Using the DataFrame created in Question 1:

- a) Select the 'Age' column.
- b) Access the second row using .iloc.

Question 3: Add a new column named 'Salary' to the DataFrame from Question 1 with values [50000, 60000, 70000].

Question 4: Using the DataFrame created in Question 1, filter and display rows where the Age is greater than 28.

Question 5: Drop the column 'City' and the row corresponding to 'Bob' from the DataFrame created in Question 1.

Question 6: Create a DataFrame with the following data:

```
data = {'A': [1, 2, None], 'B': [4, None, 6], 'C': [7, 8, 9]}
```

- a) Replace missing values with 0.
- b) Drop rows containing NaN.

Question 7: Using the DataFrame created in Question 1, sort the rows by the 'Age' column in descending order.

Question 8: Create a DataFrame:

```
data = {'Department': ['HR', 'IT', 'HR', 'IT'],  
        'Employee': ['Alice', 'Bob', 'Charlie', 'David'],  
        'Salary': [50000, 60000, 55000, 65000]}
```

Group the data by 'Department' and calculate the mean salary for each department.

Question 9: Save the DataFrame created in Question 1 to a CSV file named data.csv. Then read the file back into a new DataFrame and display it.

Question 10: Given the two DataFrames:

```
df1 = pd.DataFrame({'ID': [1, 2, 3], 'Name': ['Alice', 'Bob', 'Charlie']})  
df2 = pd.DataFrame({'ID': [1, 2, 4], 'Salary': [50000, 60000, 70000]})
```

Perform an inner merge on the 'ID' column and display the resulting DataFrame.