Assignment06

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SE - 48

Q] Create a Pandas DataFrame from the following dataset:

Name Age Salary Department

John 25 50000 HR

Alice 30 70000 IT

Bob 35 60000 Finance

Carol 28 65000 Marketing

David 40 80000 IT

- Display the first and last two rows of the DataFrame.
- Retrieve the Salary column and compute its mean and standard deviation.
- Filter employees who are older than 30 and belong to the IT department.
- Add a new column Bonus where the bonus is 10% of the salary

[10]:
```
import pandas as pd
```

[11]:
```
data = {
    'Name': ['John', 'Alice', 'Bob', 'Carol', 'David'],
    'Age': [25, 30, 35, 28, 40],
    'Salary': [50000, 70000, 60000, 65000, 80000],
    'Department': ['HR', 'IT', 'Finance', 'Marketing', 'IT']
}

df = pd.DataFrame(data)
df
```

[11]:

	Name	Age	Salary	Department
0	John	25	50000	HR
1	Alice	30	70000	IT
2	Bob	35	60000	Finance
3	Carol	28	65000	Marketing
4	David	40	80000	IT

[12]:
```
print("First two rows:")
display(df.head(2))

print("Last two rows:")
display(df.tail(2))
```

```
First two rows:
```

	Name	Age	Salary	Department
0	John	25	50000	HR
1	Alice	30	70000	IT

```
Last two rows:
```

	Name	Age	Salary	Department
3	Carol	28	65000	Marketing
4	David	40	80000	IT

[13]:
```
mean_salary = df['Salary'].mean()
std_salary = df['Salary'].std()

print(f"Mean Salary: {mean_salary}")
print(f"Standard Deviation of Salary: {std_salary}")
```

```
Mean Salary: 65000.0
Standard Deviation of Salary: 11180.339887498949
```

[14]:
```
filtered = df[(df['Age'] > 30) & (df['Department'] == 'IT')]
filtered
```

[14]:

	Name	Age	Salary	Department
4	David	40	80000	IT

[15]:
```
df['Bonus'] = df['Salary'] * 0.10
df
```

[15]:

	Name	Age	Salary	Department	Bonus
0	John	25	50000	HR	5000.0
1	Alice	30	70000	IT	7000.0
2	Bob	35	60000	Finance	6000.0
3	Carol	28	65000	Marketing	6500.0
4	David	40	80000	IT	8000.0