# Balram Mandal (30)

Assignment No.06

1. 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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| print("First two rows:") print(df.head(2))  print("\nLast two rows:") print(df.tail(2))   |  |  | | --- | --- | | First two rows: |  | | Name Age Salary Department   1. John 25 50000 HR 2. Alice 30 70000 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.

import pandas as pd

Step 1: Create the DataFrame

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)

Step 2: Display the first and last two rows

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | Last two rows: |  | | Name Age Salary Department   1. Carol 28 65000 Marketing 2. David 40 80000 IT | | |

Step 3: Retrieve Salary column and compute mean and std deviation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| salary = df['Salary']  print("Salary Mean:", salary.mean())  print("Salary Standard Deviation:", salary.std())   |  |  | | --- | --- | | Salary Mean: 65000.0 |  | | Salary Standard Deviation: 11180.339887498949 | | |

Step 4: Filter employees older than 30 in IT department

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| filtered = df[(df['Age'] > 30) & (df['Department'] == 'IT')] print("Employees older than 30 in IT Department:") print(filtered)   |  |  | | --- | --- | | Employees older than 30 in IT Department: | | | Name Age Salary Department  4 David 40 80000 IT |  | |

Step 5: Add a Bonus column (10% of Salary)

df['Bonus'] = df['Salary'] \* 0.10 print("DataFrame with Bonus column:") print(df)

DataFrame with Bonus column:

Name Age Salary Department Bonus

1. John 25 50000 HR 5000.0
2. Alice 30 70000 IT 7000.0
3. Bob 35 60000 Finance 6000.0
4. Carol 28 65000 Marketing 6500.0
5. David 40 80000 IT 8000.0