10 basic pandas functions

April 20, 2024

[15]:
```
import pandas as pd

# Create a DataFrame
data = {'Name': ['John', 'Alice', 'Bob'],
        'Age': [30, 25, 35],
        'Salary': [50000, 60000, 70000]}
df = pd.DataFrame(data)

# Display the DataFrame
print(df)
```

```
    Name  Age  Salary
0   John   30   50000
1  Alice   25   60000
2    Bob   35   70000
```

0.0.1 How many rows and columns are there in the DataFrame?

[16]:
```
print("Number of Columns is the dataFrame is",df.shape[0])
print("Number of Rows is the dataFrame is",df.shape[1])
```

```
Number of Columns is the dataFrame is 3
Number of Rows is the dataFrame is 3
```

0.0.2 What are the column names of the DataFrame?

[17]:
```
print("nameof the columns",df.columns)
```

```
nameof the columns Index(['Name', 'Age', 'Salary'], dtype='object')
```

0.0.3 What are the data types of each column?

[18]:
```
df.dtypes
```

[18]:
```
Name      object
Age        int64
Salary     int64
dtype: object
```

0.0.4 How can you access the first 3 rows of the DataFrame?

[19]:
```
print("the first 3 rows of the DataFrame"),df.head(3)
```

```
the first 3 rows of the DataFrame
```

[19]:
```
(None,
     Name  Age  Salary
 0   John   30   50000
 1  Alice   25   60000
 2    Bob   35   70000)
```

0.0.5 How can you access the 'Name' column of the DataFrame?

[20]:
```
df["Name"]
```

[20]:
```
0     John
1    Alice
2      Bob
Name: Name, dtype: object
```

0.0.6 What is the average age of the individuals in the DataFrame?

[21]:
```
print("average age of the individuals:",df["Age"].mean())
```

```
average age of the individuals: 30.0
```

0.0.7 How can you filter the DataFrame to show only individuals with a salary greater than 60000?

[22]:
```
df[df["Salary"]>60000]
```

[22]:
```
   Name  Age  Salary
2  Bob   35   70000
```

0.0.8 How can you sort the DataFrame based on the 'Age' column in descending order?

[23]:
```
df.sort_values("Age",ascending=False )
```

[23]:
```
    Name  Age  Salary
2    Bob   35   70000
0   John   30   50000
1  Alice   25   60000
```

0.0.9 How can you add a new column 'Gender' to the DataFrame with values 'Male', 'Female', 'Male'?

[24]:
```
df["Gender"]=["male","Female","bob"]
df
```

[24]:
```
     Name  Age  Salary  Gender
0    John   30   50000    male
1   Alice   25   60000  Female
2     Bob   35   70000     bob
```

0.0.10 How can you drop the 'Salary' column from the DataFrame?

[25]:
```
df.drop(columns="Salary")
```

[25]:
```
     Name  Age  Gender
0    John   30    male
1   Alice   25  Female
2     Bob   35     bob
```