ssignment-tanviredu2018-gmail-com

November 15, 2023

[2]:
```
import numpy  as np
import pandas as pd
```

[56]:
```
data = {'Name': ['Alice', 'Bob', 'Charlie', 'David'],
'Math Score': [85, 92, 78, 88],
'English Score': [90, 86, 92, 80]}

df = pd.DataFrame(data)
```

[57]:
```
df
```

[57]:

	Name	Math Score	English Score
0	Alice	85	90
1	Bob	92	86
2	Charlie	78	92
3	David	88	80

0.0.1 1. Retrieve the English score of 'Charlie'.

[21]:
```
df.loc[df['Name'] == 'Charlie',"English Score"].values[0]
```

[21]:
```
92
```

0.0.2 2. Get the Math scores of all students.

[23]:
```
print(df.loc[:,"Math Score"].values)
```

```
[85 92 78 88]
```

0.0.3 3. Access the English score of the first student.

[27]:
```
print(df.iloc[0]['English Score'])
```

```
90
```

0.0.4 4. Retrieve the Math score of the last student.

[32]:
```
df.iloc[-1]["Math Score"]
```

[32]: 88

0.0.5 5. Update Bob's Math score to 95.

[40]:
```
df.loc[df['Name'] == "Bob","Math Score"] = 95
df
```

[40]:

	Name	Math Score	English Score
0	Alice	85	90
1	Bob	95	86
2	Charlie	78	92
3	David	88	80

0.0.6 6. Increase Charlie's English score by 5 points.

[43]:
```
df.loc[df['Name']== "Charlie","English Score"] +=5
df
```

[43]:

	Name	Math Score	English Score
0	Alice	85	90
1	Bob	95	86
2	Charlie	78	97
3	David	88	80

0.0.7 7. Add a new row for 'Eve' with Math Score 88 and English Score 95.

[47]:
```
df.loc[len(df)] = ["Eve",88,95]
df
```

[47]:

	Name	Math Score	English Score
0	Alice	85	90
1	Bob	95	86
2	Charlie	78	97
3	David	88	80
4	Eve	88	95

0.0.8 8. Delete the row for 'David' from the DataFrame.

[59]:
```
del_index = df.loc[df['Name'] == 'David'].index.values[0]
df_new = df.drop(labels = del_index)
df_new
```

[59]:

	Name	Math Score	English Score
0	Alice	85	90
1	Bob	92	86
2	Charlie	78	92

0.0.9 9. Insert a new column called 'Science Score' with values [92, 84, 89, 78].

[62]:
```
df['Science Score'] = [92,84,89,78]
df
```

[62]:

	Name	Math Score	English Score	Science Score
0	Alice	85	90	92
1	Bob	92	86	84
2	Charlie	78	92	89
3	David	88	80	78

0.0.10 10 . Delete the 'English Score' column from the DataFrame.

[63]:
```
df_new = df.drop("English Score",axis=1)
df_new
```

[63]:

	Name	Math Score	Science Score
0	Alice	85	92
1	Bob	92	84
2	Charlie	78	89
3	David	88	78

0.0.11 11. Create a new column 'Total Score' that represents the sum of Math Score and English Score for each student.

[64]:
```
df['Total Score'] = df['Math Score'] + df['English Score']
```

[65]:
```
df
```

[65]:

	Name	Math Score	English Score	Science Score	Total Score
0	Alice	85	90	92	175
1	Bob	92	86	84	178
2	Charlie	78	92	89	170
3	David	88	80	78	168

0.0.12 12. Find the student with the highest Total Score.

[70]:
```
student_with_highest_score = df.loc[df['Total Score'].idxmax(),"Name"]
print("Student with the highest Total Score:", student_with_highest_score)
```

```
Student with the highest Total Score: Bob
```

[ ]:

[4]:
```
data = {'Name': ['Alice', 'Bob', 'Charlie', 'David'],
'Math Score': [85, 92, 78, 88],
'English Score': [90, 86, 92, 80]}

df = pd.DataFrame(data)
```

[ ]:

0.1 SECOND DATAFRAME

[5]:
```
data2 = {'Name': ['Eve', 'Frank'],
'Math Score': [87, 76],
'English Score': [94, 82]}
df2 = pd.DataFrame(data2)
```

[6]:
```
df2
```

[6]:

	Name	Math Score	English Score
0	Eve	87	94
1	Frank	76	82

0.1.1 Combine this DataFrame (df2) with the original DataFrame (df) to create a new DataFrame that includes all students.

[7]:
```
df_final = pd.concat([df,df2],ignore_index=True)
```

[8]:
```
df_final
```

[8]:

	Name	Math Score	English Score
0	Alice	85	90
1	Bob	92	86
2	Charlie	78	92
3	David	88	80
4	Eve	87	94
5	Frank	76	82

[ ]: