Ex2 - Filtering and Sorting Data

This time we are going to pull data directly from the internet.

Step 1. Import the necessary libraries

```
import pandas as pd
```

Step 2. Import the dataset from this address.

```
url = "https://raw.githubusercontent.com/thieu1995/csv-files/main/data/pandas/Euro_2012_stats_TEAM.csv"
```

Step 3. Assign it to a variable called euro12.

```
euro12 = pd.read_csv(url)
```

Step 4. Select only the Goal column.

```
print(euro12['Goals'])
```

```
0      4
1      4
2      4
3      5
4      3
5     10
6      5
7      6
8      2
9      2
10     6
11     1
12     5
13    12
14     5
15     2
Name: Goals, dtype: int64
```

Step 5. How many team participated in the Euro2012?

```
print(euro12['Team'].count())
```

```
16
```

Step 6. What is the number of columns in the dataset?

```
print(len(euro12.columns))
```

```
35
```

Step 7. View only the columns Team, Yellow Cards and Red Cards and assign them to a dataframe called discipline

```
discipline = euro12[['Team', 'Yellow Cards', 'Red Cards']]
print(discipline)
```

```
                  Team  Yellow Cards  Red Cards
0              Croatia             9          0
1       Czech Republic             7          0
2              Denmark             4          0
3              England             5          0
4               France             6          0
5              Germany             4          0
6               Greece             9          1
7                Italy            16          0
8          Netherlands             5          0
9               Poland             7          1
```

```
10            Portugal           12          0
11  Republic of Ireland            6          1
12               Russia            6          0
13                Spain           11          0
14               Sweden            7          0
15              Ukraine            5          0
```

Step 8. Sort the teams by Red Cards, then to Yellow Cards

```
discipline = discipline.sort_values(by=['Red Cards'])

print(discipline)
```

```
                   Team  Yellow Cards  Red Cards
0               Croatia             9          0
1        Czech Republic             7          0
2               Denmark             4          0
3               England             5          0
4                France             6          0
5               Germany             4          0
7                 Italy            16          0
8           Netherlands             5          0
14               Sweden             7          0
10             Portugal            12          0
13                Spain            11          0
12               Russia             6          0
15              Ukraine             5          0
6                Greece             9          1
11  Republic of Ireland             6          1
9                Poland             7          1
```

```
discipline = discipline.sort_values(by=['Yellow Cards'])

print(discipline)
```

```
                   Team  Yellow Cards  Red Cards
2               Denmark             4          0
5               Germany             4          0
8           Netherlands             5          0
3               England             5          0
15              Ukraine             5          0
4                France             6          0
12               Russia             6          0
11  Republic of Ireland             6          1
9                Poland             7          1
14               Sweden             7          0
1        Czech Republic             7          0
0               Croatia             9          0
6                Greece             9          1
13                Spain            11          0
10             Portugal            12          0
7                 Italy            16          0
```

Step 9. Calculate the mean Yellow Cards given per Team

```
mean = euro12['Yellow Cards'].mean()

print(mean)
```

```
7.4375
```

Step 10. Filter teams that scored more than 6 goals

```
more_than_6 = euro12[euro12['Goals'] >= 6]

print(more_than_6)
```

```
         Team  Goals  Shots on target  Shots off target Shooting Accuracy  \
5    Germany     10               32                32             47.8%
7      Italy      6               34                45             43.0%
10  Portugal      6               22                42             34.3%
13     Spain     12               42                33             55.9%

   % Goals-to-shots  Total shots (inc. Blocked)  Hit Woodwork  Penalty goals  \
5             15.6%                          80             2              1
7              7.5%                         110             2              0
10             9.3%                          82             6              0
13            16.0%                         100             0              1

    Penalties not scored  ...  Saves made  Saves-to-shots ratio  Fouls Won  \
```

```
5                    0  ...          10                62.6%         63
7                    0  ...          20                74.1%        101
10                   0  ...          10                71.5%         73
13                   0  ...          15                93.8%        102

   Fouls Conceded  Offsides  Yellow Cards  Red Cards  Subs on  Subs off  \
5              49        12             4          0       15        15
7              89        16            16          0       18        18
10             90        10            12          0       14        14
13             83        19            11          0       17        17

    Players Used
5             17
7             19
10            16
13            18

[4 rows x 35 columns]
```

Step 11. Select the teams that start with G

```
start_G = euro12[euro12['Team'].str.startswith('G')]

print(start_G)
```

```
       Team  Goals  Shots on target  Shots off target Shooting Accuracy  \
5  Germany     10               32                32             47.8%
6   Greece      5                8                18             30.7%

  % Goals-to-shots  Total shots (inc. Blocked)  Hit Woodwork  Penalty goals  \
5            15.6%                          80             2              1
6            19.2%                          32             1              1

   Penalties not scored  ...  Saves made  Saves-to-shots ratio  Fouls Won  \
5                     0  ...          10                62.6%         63
6                     1  ...          13                65.1%         67

  Fouls Conceded  Offsides  Yellow Cards  Red Cards  Subs on  Subs off  \
5             49        12             4          0       15        15
6             48        12             9          1       12        12

   Players Used
5            17
6            20

[2 rows x 35 columns]
```

Step 12. Select the first 7 columns

```
column7 = euro12.iloc[:, :7]

print(column7)
```

```
                   Team  Goals  Shots on target  Shots off target  \
0               Croatia      4               13                12
1        Czech Republic      4               13                18
2               Denmark      4               10                10
3               England      5               11                18
4                France      3               22                24
5               Germany     10               32                32
6                Greece      5                8                18
7                 Italy      6               34                45
8           Netherlands      2               12                36
9                Poland      2               15                23
10             Portugal      6               22                42
11  Republic of Ireland      1                7                12
12               Russia      5                9                31
13                Spain     12               42                33
14               Sweden      5               17                19
15              Ukraine      2                7                26

   Shooting Accuracy % Goals-to-shots  Total shots (inc. Blocked)
0              51.9%            16.0%                          32
1              41.9%            12.9%                          39
2              50.0%            20.0%                          27
3              50.0%            17.2%                          40
4              37.9%             6.5%                          65
5              47.8%            15.6%                          80
6              30.7%            19.2%                          32
7              43.0%             7.5%                         110
8              25.0%             4.1%                          60
9              39.4%             5.2%                          48
10             34.3%             9.3%                          82
11             36.8%             5.2%                          28
```

```
12            22.5%           12.5%                     59
13            55.9%           16.0%                    100
14            47.2%           13.8%                     39
15            21.2%            6.0%                     38
```

Step 13. Select all columns except the last 3.

```
except_last3 = euro12.iloc[:, :-3]

print(except_last3)
```

```
                   Team  Goals  Shots on target  Shots off target  \
0               Croatia      4               13                12
1        Czech Republic      4               13                18
2               Denmark      4               10                10
3               England      5               11                18
4                France      3               22                24
5               Germany     10               32                32
6                Greece      5                8                18
7                 Italy      6               34                45
8           Netherlands      2               12                36
9                Poland      2               15                23
10             Portugal      6               22                42
11  Republic of Ireland      1                7                12
12               Russia      5                9                31
13                Spain     12               42                33
14               Sweden      5               17                19
15              Ukraine      2                7                26

   Shooting Accuracy % Goals-to-shots  Total shots (inc. Blocked)  \
0              51.9%            16.0%                          32
1              41.9%            12.9%                          39
2              50.0%            20.0%                          27
3              50.0%            17.2%                          40
4              37.9%             6.5%                          65
5              47.8%            15.6%                          80
6              30.7%            19.2%                          32
7              43.0%             7.5%                         110
8              25.0%             4.1%                          60
9              39.4%             5.2%                          48
10             34.3%             9.3%                          82
11             36.8%             5.2%                          28
12             22.5%            12.5%                          59
13             55.9%            16.0%                         100
14             47.2%            13.8%                          39
15             21.2%             6.0%                          38

    Hit Woodwork  Penalty goals  Penalties not scored  ...  Clean Sheets  \
0              0              0                     0  ...             0
1              0              0                     0  ...             1
2              1              0                     0  ...             1
3              0              0                     0  ...             2
4              1              0                     0  ...             1
5              2              1                     0  ...             1
6              1              1                     1  ...             1
7              2              0                     0  ...             2
8              2              0                     0  ...             0
9              0              0                     0  ...             0
10             6              0                     0  ...             2
11             0              0                     0  ...             0
12             2              0                     0  ...             0
13             0              1                     0  ...             5
14             3              0                     0  ...             1
15             0              0                     0  ...             0

    Blocks  Goals conceded Saves made  Saves-to-shots ratio  Fouls Won  \
0       10               3         13                 81.3%         41
1       10               6          9                 60.1%         53
2       10               5         10                 66.7%         25
```

Step 14. Present only the Shooting Accuracy from England, Italy and Russia

```
result = euro12[['Team', 'Shooting Accuracy']]

result = result[result['Team'].isin(['England', 'Italy', 'Russia'])]

print(result)
```

```
        Team Shooting Accuracy
3   England             50.0%
7     Italy             43.0%
12   Russia             22.5%
```