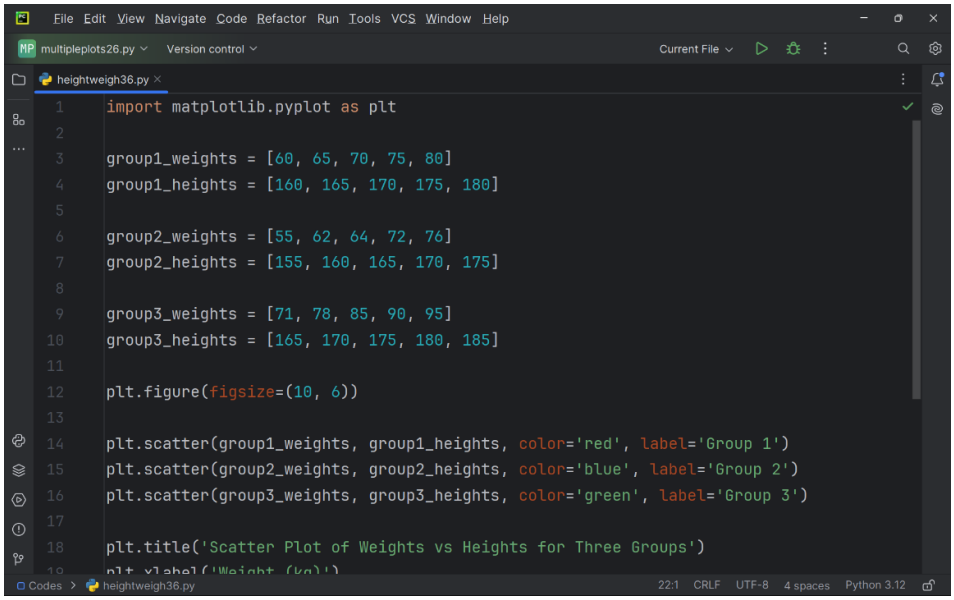
Experiment 36

Aim:

To develop a Python program to draw a scatter plot for three different groups comparing weights and heights.

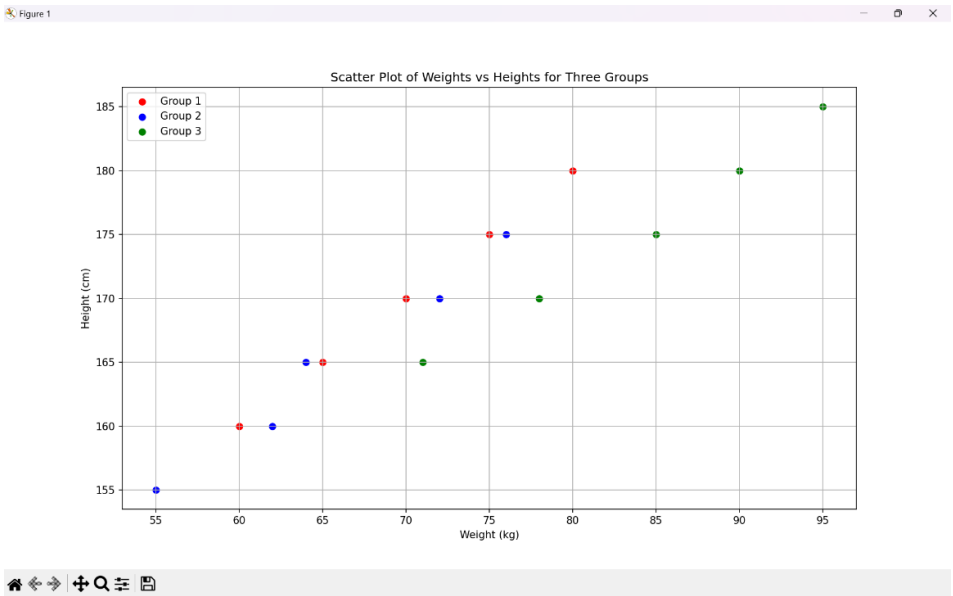
Code:



Input:

```
group1_weights = [60, 65, 70, 75, 80]
group1_heights = [160, 165, 170, 175, 180]

group2_weights = [55, 62, 64, 72, 76]
group2_heights = [155, 160, 165, 170, 175]

group3_weights = [71, 78, 85, 90, 95]
group3_heights = [165, 170, 175, 180, 185]
```

Output:

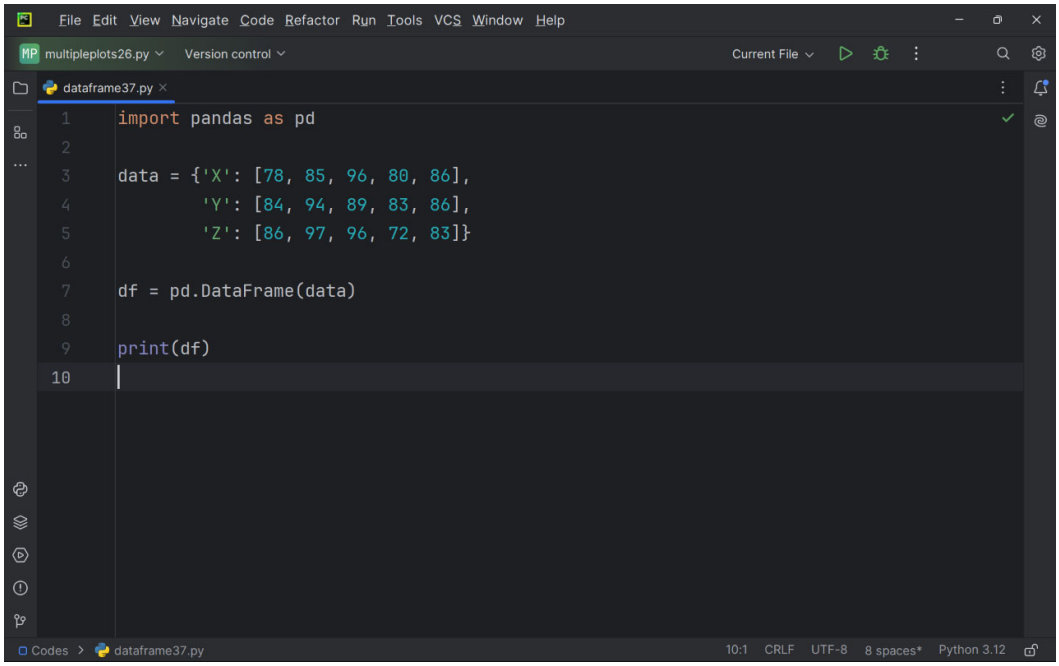


Experiment 37

Aim:

To develop a Pandas program to create a dataframe from a dictionary and display it.

Code:



Input:

```
data = {'X': [78, 85, 96, 80, 86],
        'Y': [84, 94, 89, 83, 86],
        'Z': [86, 97, 96, 72, 83]}
```

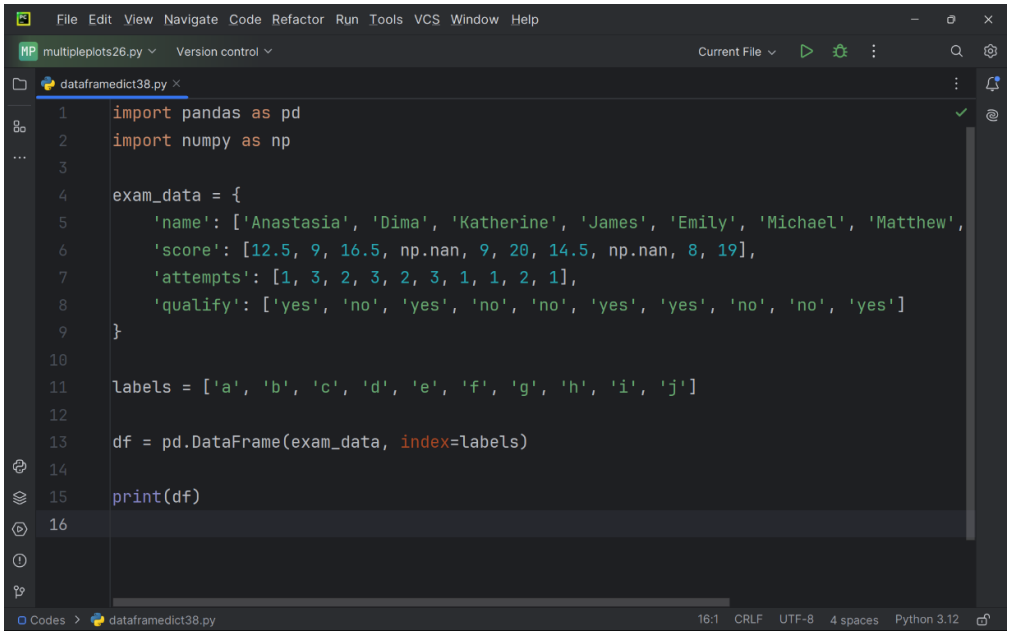
Output:

Experiment 38

Aim:

To develop a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels.

Code:

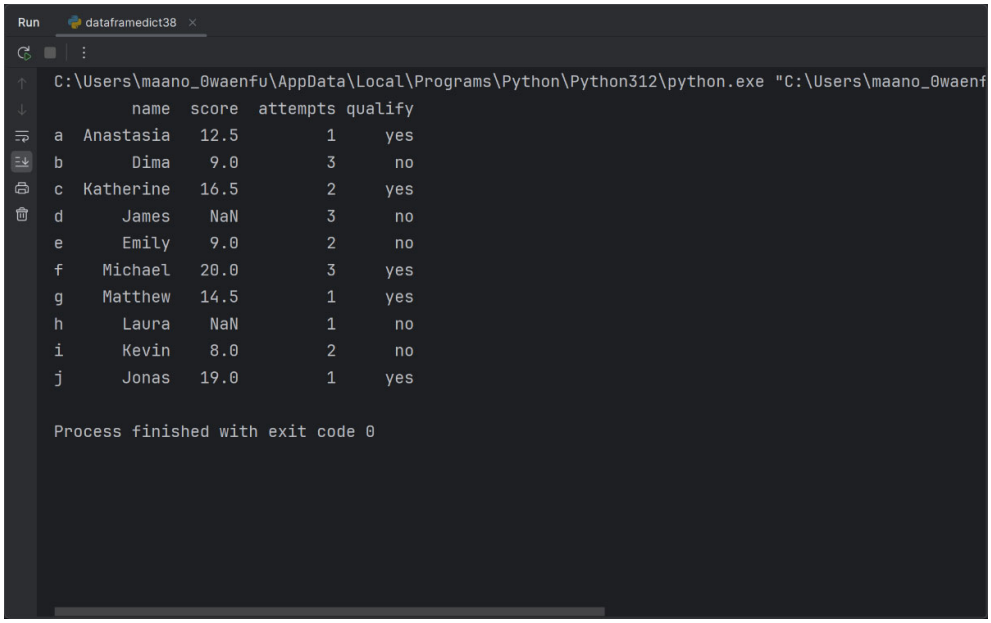


```
import pandas as pd
import numpy as np

exam_data = {
    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew',
    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],
    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],
    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']
}

labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']

df = pd.DataFrame(exam_data, index=labels)

print(df)
```

Input:

```
exam_data = {
    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew',
    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],
    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],
    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']
}

labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']
```

Output:



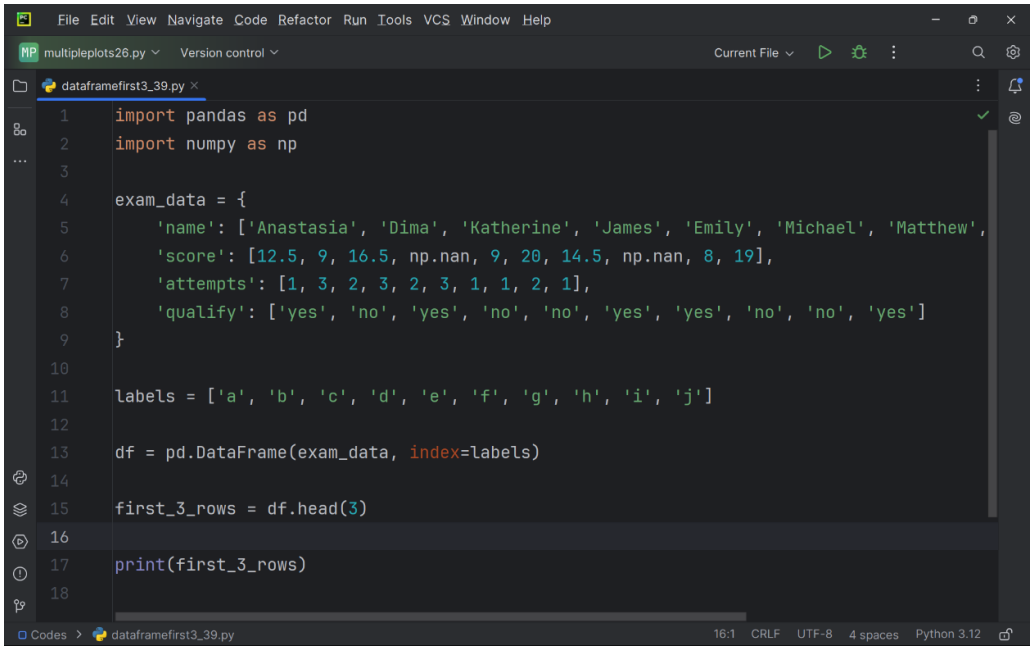
```
C:\Users\maano_0waenfu\AppData\Local\Programs\Python\Python312\python.exe "C:\Users\maano_0waenf
        name  score  attempts qualify
a  Anastasia   12.5         1     yes
b       Dima    9.0         3      no
c  Katherine   16.5         2     yes
d      James    NaN         3      no
e      Emily    9.0         2      no
f    Michael   20.0         3     yes
g    Matthew   14.5         1     yes
h      Laura    NaN         1      no
i      Kevin    8.0         2      no
j      Jonas   19.0         1     yes

Process finished with exit code 0
```

Experiment 39

Aim:

To develop a Pandas program to get the first 3 rows of a given DataFrame.

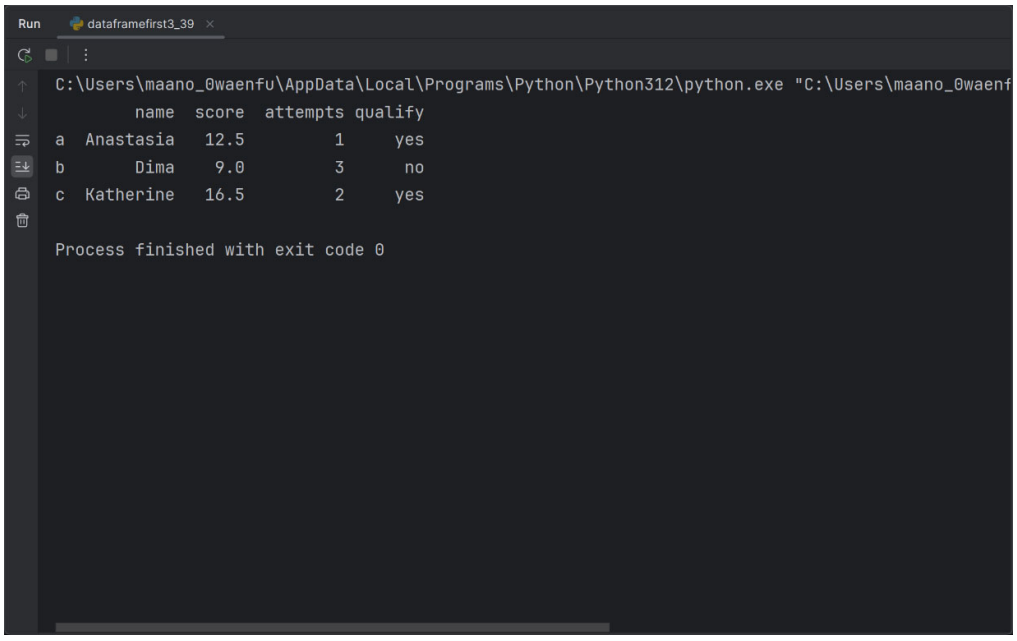
Code:



Input:

```
exam_data = {
    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew',
    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],
    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],
    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']
}

labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j']
```

Output:

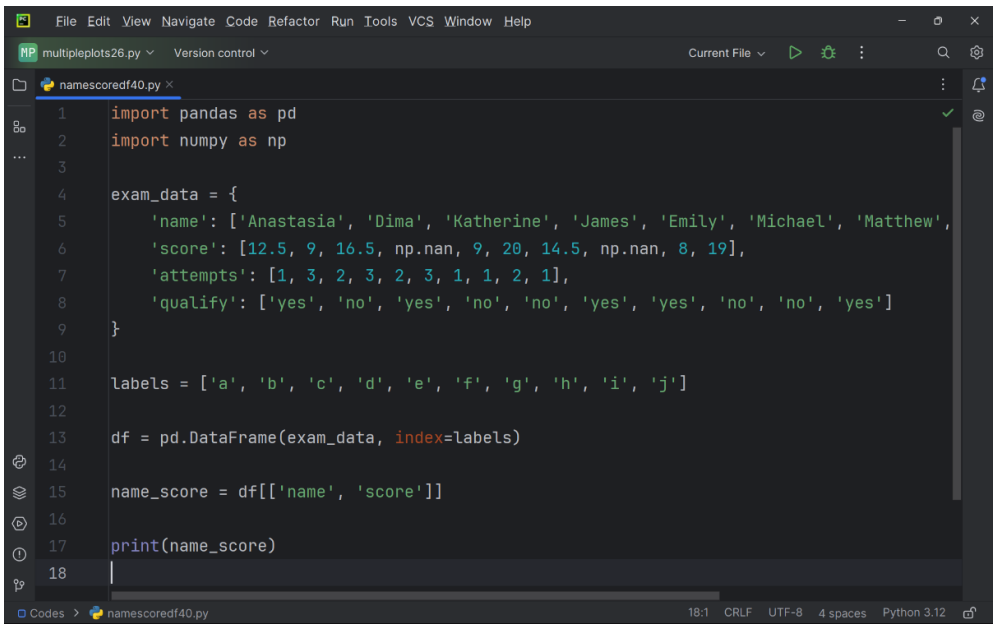


Experiment 40

Aim:

To develop a Pandas program to select the 'name' and 'score' columns from the following DataFrame.

Code:



Input:

```
exam_data = {
    'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew',
    'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],
    'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],
    'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']
}
```

Output: