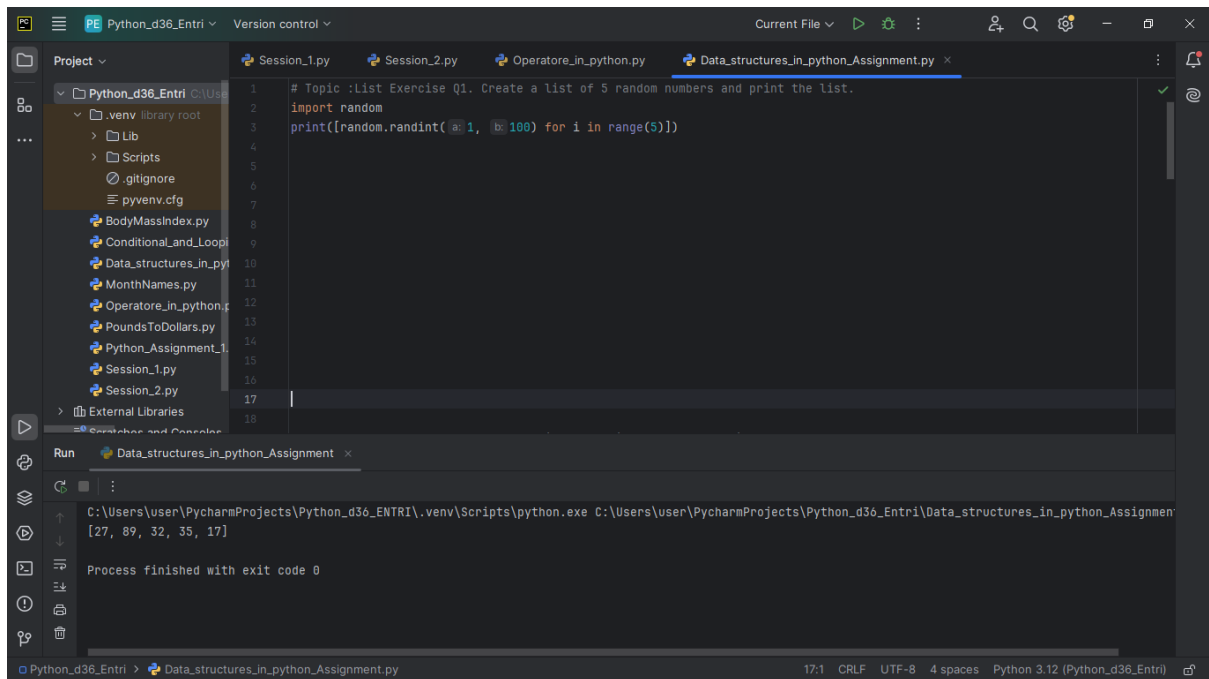


PYTHON ASSIGNMENT - 3: DATA STRUCTURES IN PYTHON

Topic: List

Q1. Create a list of 5 random numbers and print the list.

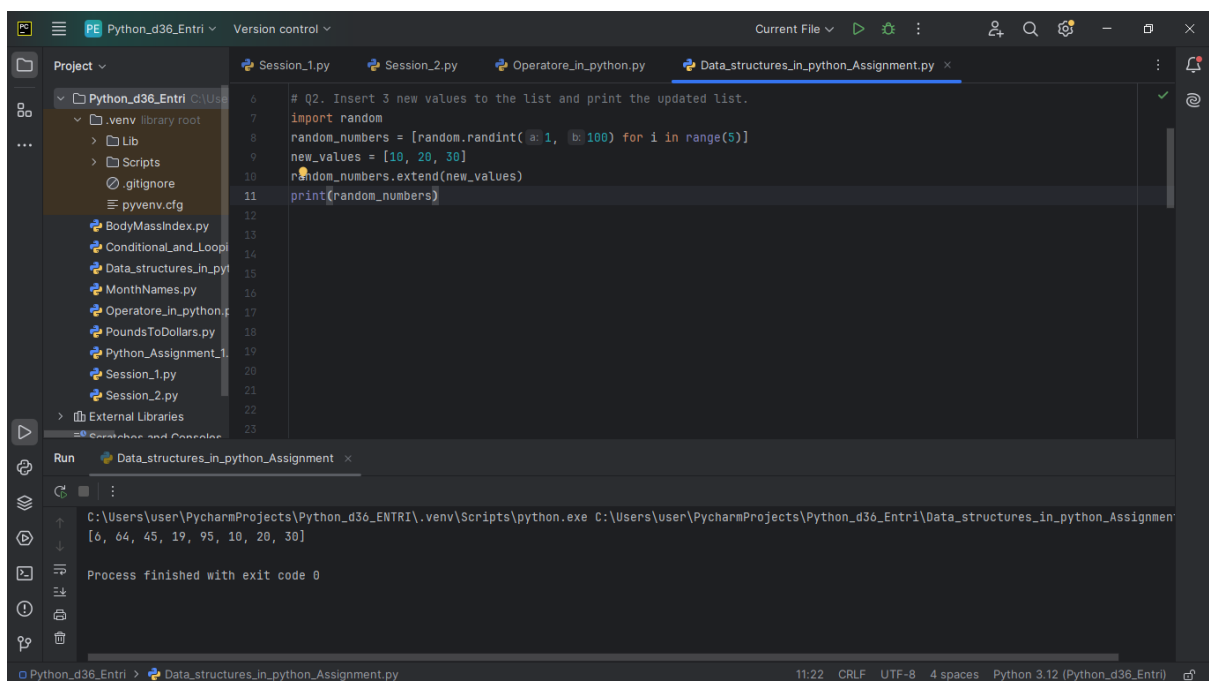


The screenshot shows the PyCharm IDE interface. The 'Project' view on the left displays the file structure of the 'Python_d36_Entry' project. The main editor window shows the file 'Data_structures_in_python_Assignment.py' with the following code:

```
1 # Topic :List Exercise Q1. Create a list of 5 random numbers and print the list.
2 import random
3 print([random.randint(a=1, b=100) for i in range(5)])
4
5
6
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13
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15
16
17
18
```

The 'Run' window at the bottom shows the command executed: `C:\Users\user\PycharmProjects\Python_d36_Entry\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entry\Data_structures_in_python_Assignment.py`. The output is: `[27, 89, 32, 35, 17]`. The status bar at the bottom indicates the file is 'Data_structures_in_python_Assignment.py' at line 17, column 1, using CRLF line endings, UTF-8 encoding, and 4 spaces for indentation, with Python 3.12 (Python_d36_Entry) as the interpreter.

Q2. Insert 3 new values to the list and print the updated list.

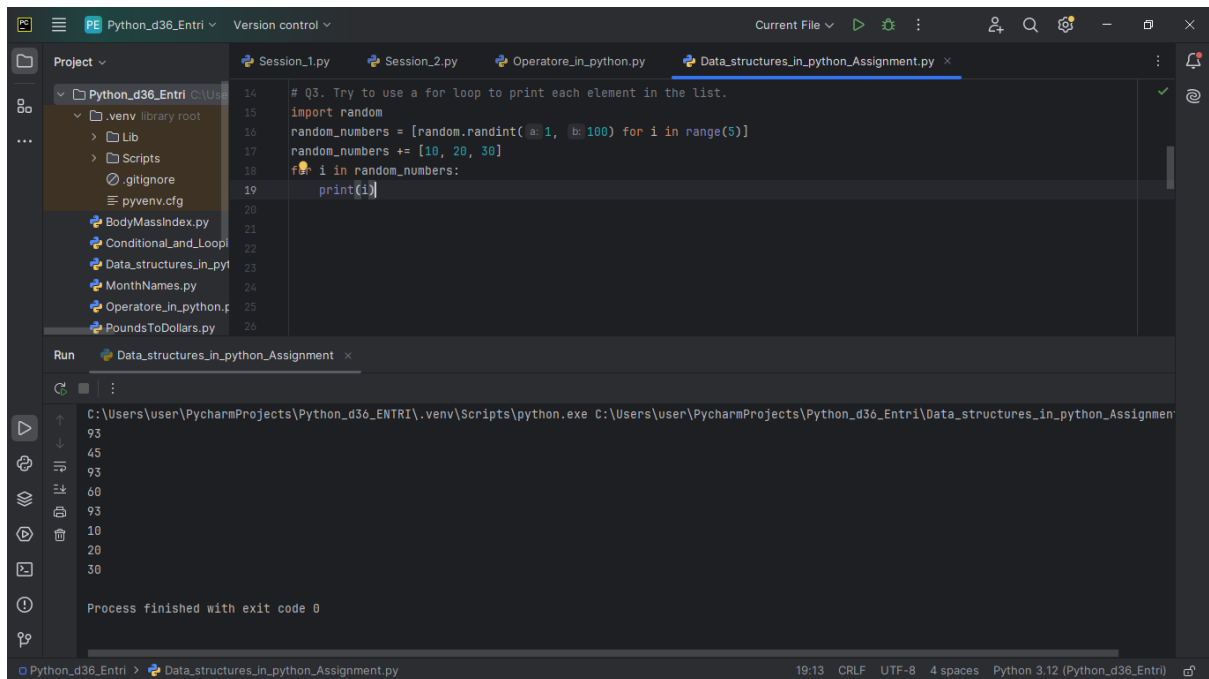


The screenshot shows the PyCharm IDE interface. The 'Project' view on the left displays the file structure of the 'Python_d36_Entry' project. The main editor window shows the file 'Data_structures_in_python_Assignment.py' with the following code:

```
6 # Q2. Insert 3 new values to the list and print the updated list.
7 import random
8 random_numbers = [random.randint(a=1, b=100) for i in range(5)]
9 new_values = [10, 20, 30]
10 random_numbers.extend(new_values)
11 print(random_numbers)
12
13
14
15
16
17
18
19
20
21
22
23
```

The 'Run' window at the bottom shows the command executed: `C:\Users\user\PycharmProjects\Python_d36_Entry\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entry\Data_structures_in_python_Assignment.py`. The output is: `[6, 64, 45, 19, 95, 10, 20, 30]`. The status bar at the bottom indicates the file is 'Data_structures_in_python_Assignment.py' at line 11, column 22, using CRLF line endings, UTF-8 encoding, and 4 spaces for indentation, with Python 3.12 (Python_d36_Entry) as the interpreter.

Q3. Try to use a for loop to print each element in the list.



```
# Q3. Try to use a for loop to print each element in the list.
import random
random_numbers = [random.randint(a=1, b=100) for i in range(5)]
random_numbers += [10, 20, 30]
for i in random_numbers:
    print(i)
```

Run Data_structures_in_python_Assignment

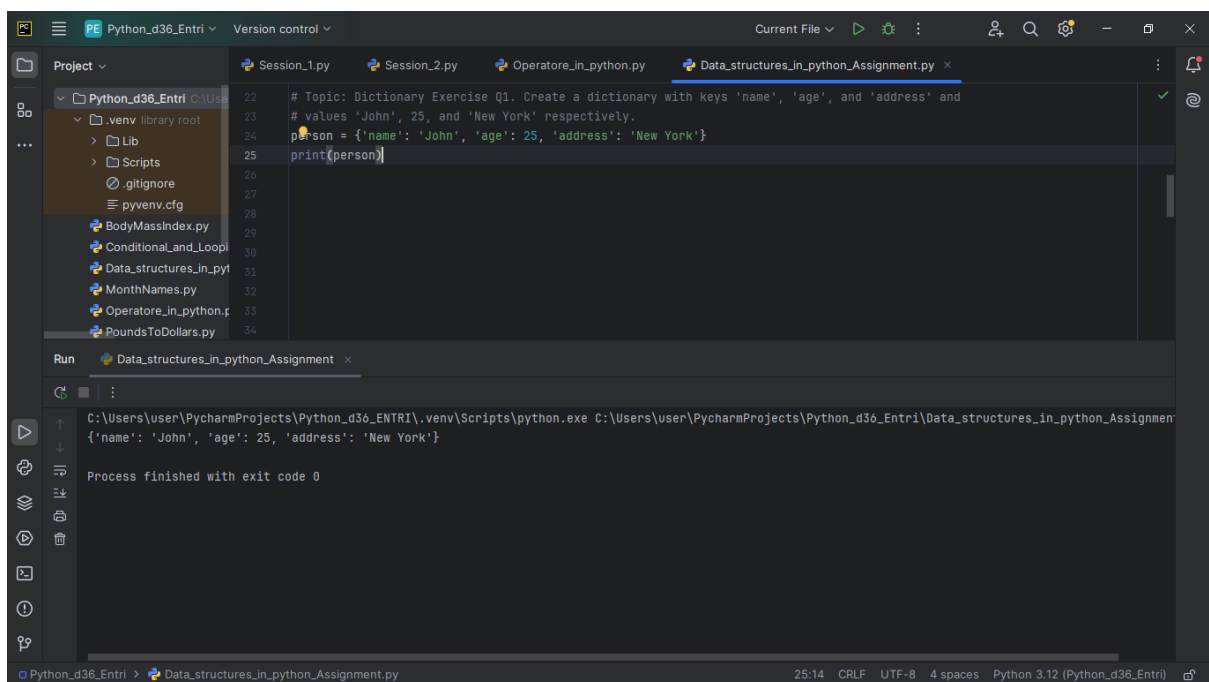
C:\Users\user\PycharmProjects\Python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_ENTRI\Data_structures_in_python_Assignment.py

93
45
93
60
93
10
20
30

Process finished with exit code 0

Topic: Dictionary

Q1. Create a dictionary with keys 'name', 'age', and 'address' and values 'John', 25, and 'New York' respectively.



```
# Topic: Dictionary Exercise Q1. Create a dictionary with keys 'name', 'age', and 'address' and
# values 'John', 25, and 'New York' respectively.
person = {'name': 'John', 'age': 25, 'address': 'New York'}
print(person)
```

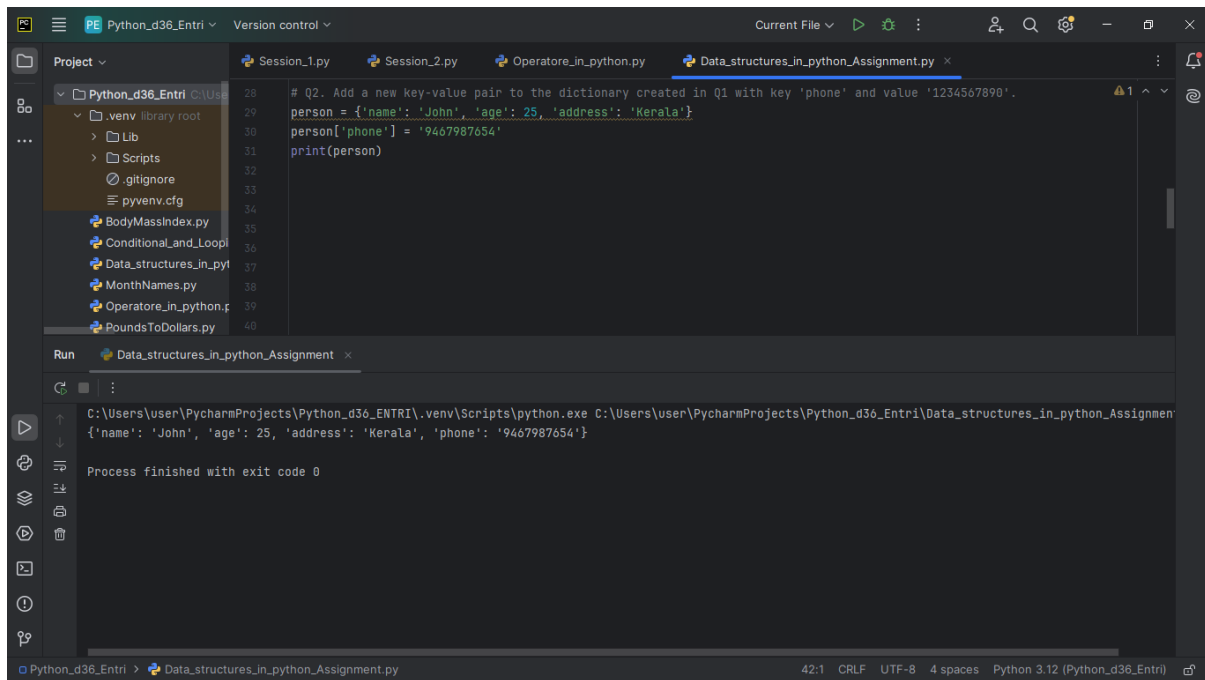
Run Data_structures_in_python_Assignment

C:\Users\user\PycharmProjects\Python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_ENTRI\Data_structures_in_python_Assignment.py

{'name': 'John', 'age': 25, 'address': 'New York'}

Process finished with exit code 0

Q2. Add a new key-value pair to the dictionary created in Q1 with key 'phone' and value '1234567890'.



The screenshot shows the PyCharm IDE with a project named 'Python_d36_Entri'. The file explorer on the left lists several files, including 'Data_structures_in_python_Assignment.py'. The main editor window displays the code for Q2:

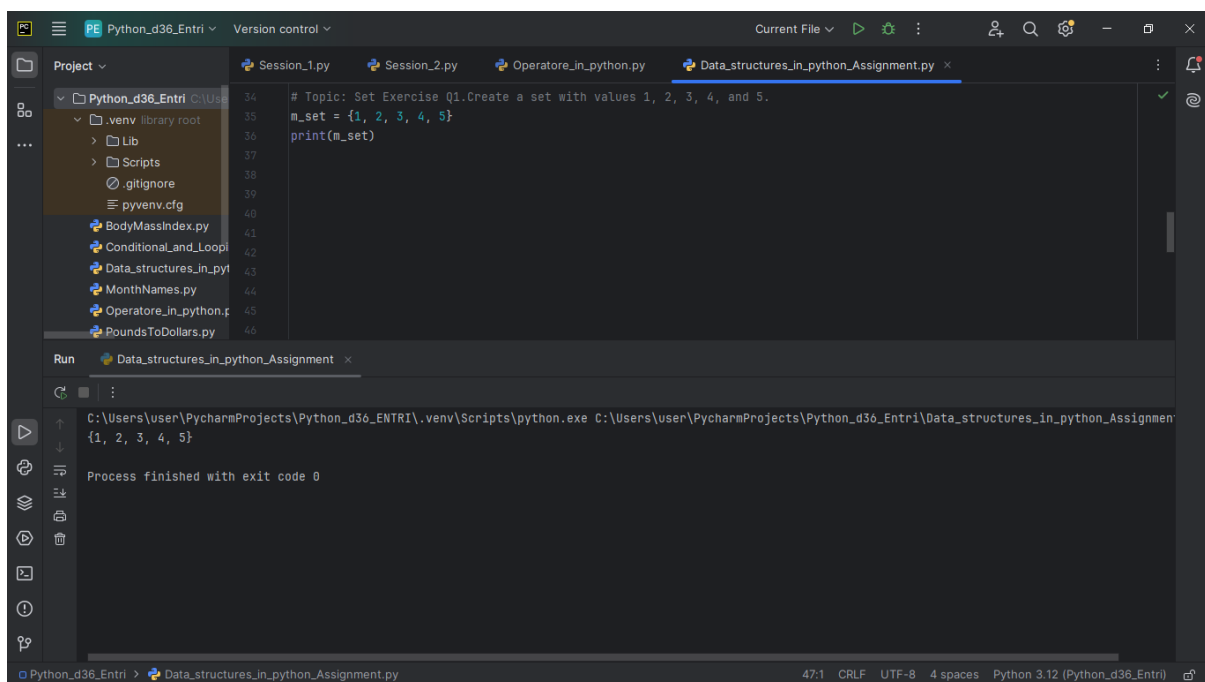
```
28 # Q2. Add a new key-value pair to the dictionary created in Q1 with key 'phone' and value '1234567890'.
29 person = {'name': 'John', 'age': 25, 'address': 'Kerala'}
30 person['phone'] = '9467987654'
31 print(person)
32
33
34
35
36
37
38
39
40
```

The Run window at the bottom shows the execution output:

```
C:\Users\user\PycharmProjects\Python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entri\Data_structures_in_python_Assignment.py
{'name': 'John', 'age': 25, 'address': 'Kerala', 'phone': '9467987654'}
Process finished with exit code 0
```

Topic: Set

Q1.Create a set with values 1, 2, 3, 4, and 5.



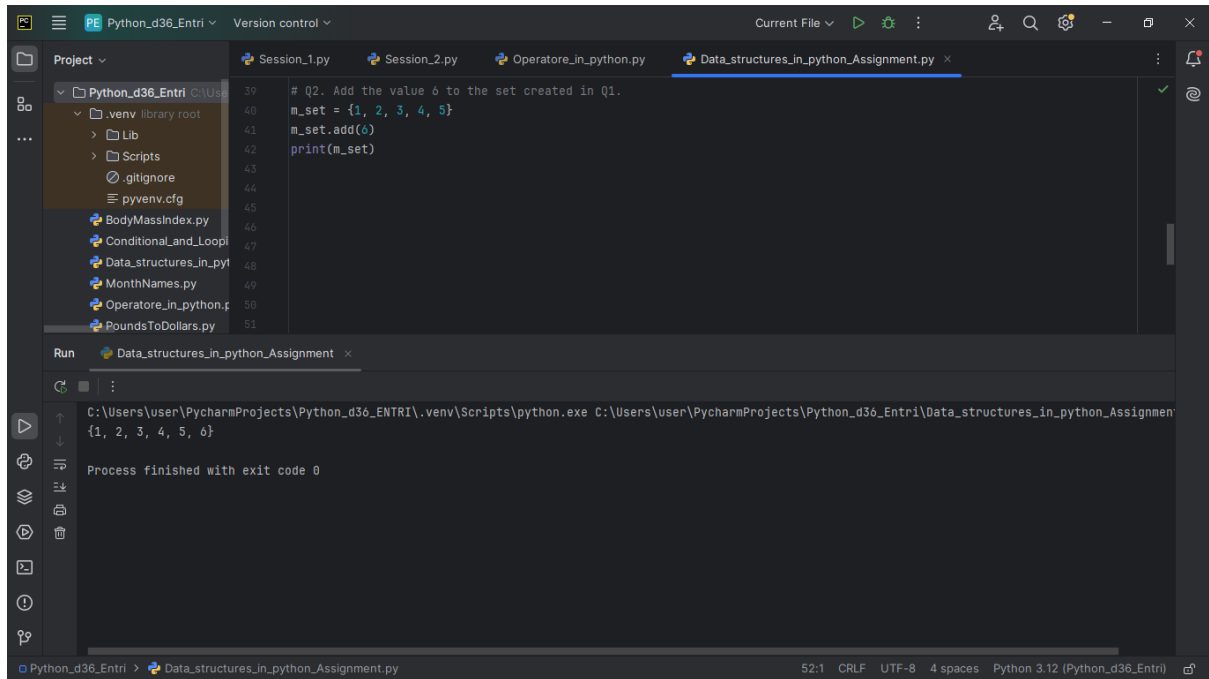
The screenshot shows the PyCharm IDE with the same project. The file explorer lists the same files. The main editor window displays the code for Q1:

```
34 # Topic: Set Exercise Q1.Create a set with values 1, 2, 3, 4, and 5.
35 m_set = {1, 2, 3, 4, 5}
36 print(m_set)
37
38
39
40
41
42
43
44
45
46
```

The Run window at the bottom shows the execution output:

```
C:\Users\user\PycharmProjects\Python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entri\Data_structures_in_python_Assignment.py
{1, 2, 3, 4, 5}
Process finished with exit code 0
```

Q2. Add the value 6 to the set created in Q1.



```
Python_d36_Entry | Version control | Current File | [Run] [Debug] [Tools] [View] [Window] [Help] | [Close] [Maximize] [Fullscreen] [Exit]
```

Project | Python_d36_Entry | .venv | library root | Lib | Scripts | .gitignore | pyvenv.cfg | BodyMassIndex.py | Conditional_Land_Loop | Data_structures_in_py | MonthNames.py | Operator_in_python.py | PoundsToDollars.py

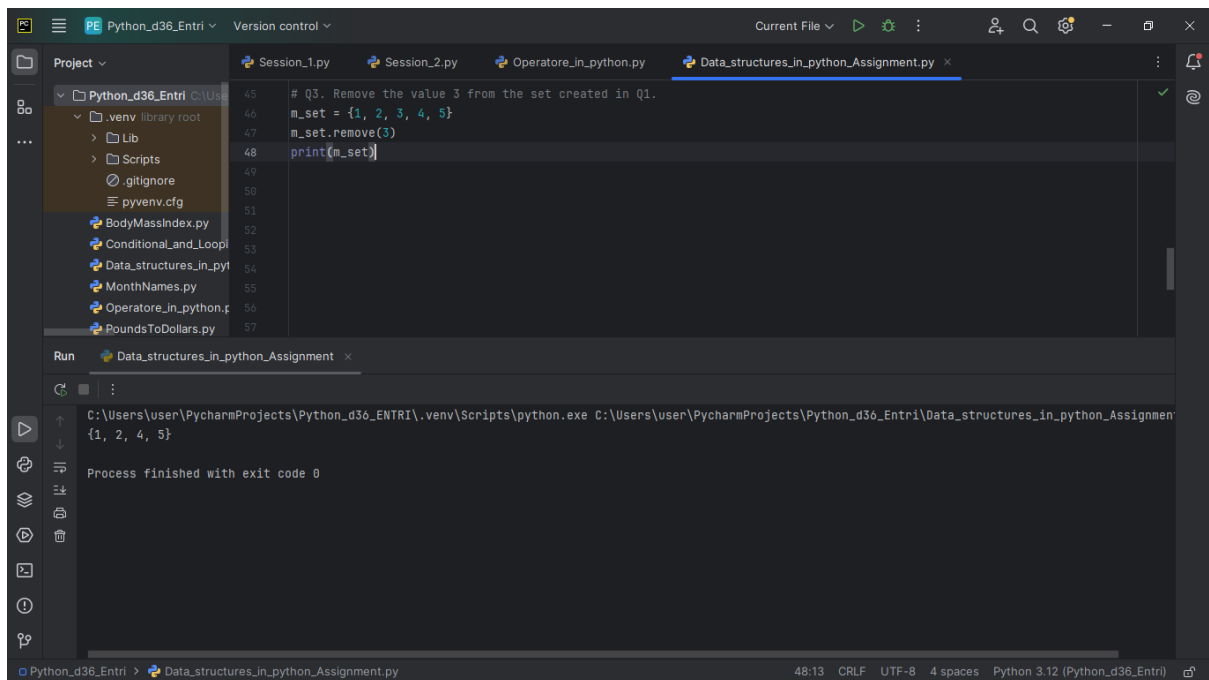
```
39 # Q2. Add the value 6 to the set created in Q1.  
40 m_set = {1, 2, 3, 4, 5}  
41 m_set.add(6)  
42 print(m_set)  
43  
44  
45  
46  
47  
48  
49  
50  
51
```

Run | Data_structures_in_python_Assignment | [Run] [Debug] [Tools] [View] [Window] [Help] | [Close] [Maximize] [Fullscreen] [Exit]

```
C:\Users\user\PycharmProjects\Python_d36_Entry\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entry\Data_structures_in_python_Assignment.py  
{1, 2, 3, 4, 5, 6}  
  
Process finished with exit code 0
```

Python_d36_Entry | Data_structures_in_python_Assignment.py | 52:1 | CRLF | UTF-8 | 4 spaces | Python 3.12 (Python_d36_Entry) | [Close] [Maximize] [Fullscreen] [Exit]

Q3. Remove the value 3 from the set created in Q1.



```
Python_d36_Entry | Version control | Current File | [Run] [Debug] [Tools] [View] [Window] [Help] | [Close] [Maximize] [Fullscreen] [Exit]
```

Project | Python_d36_Entry | .venv | library root | Lib | Scripts | .gitignore | pyvenv.cfg | BodyMassIndex.py | Conditional_Land_Loop | Data_structures_in_py | MonthNames.py | Operator_in_python.py | PoundsToDollars.py

```
45 # Q3. Remove the value 3 from the set created in Q1.  
46 m_set = {1, 2, 3, 4, 5}  
47 m_set.remove(3)  
48 print(m_set)  
49  
50  
51  
52  
53  
54  
55  
56  
57
```

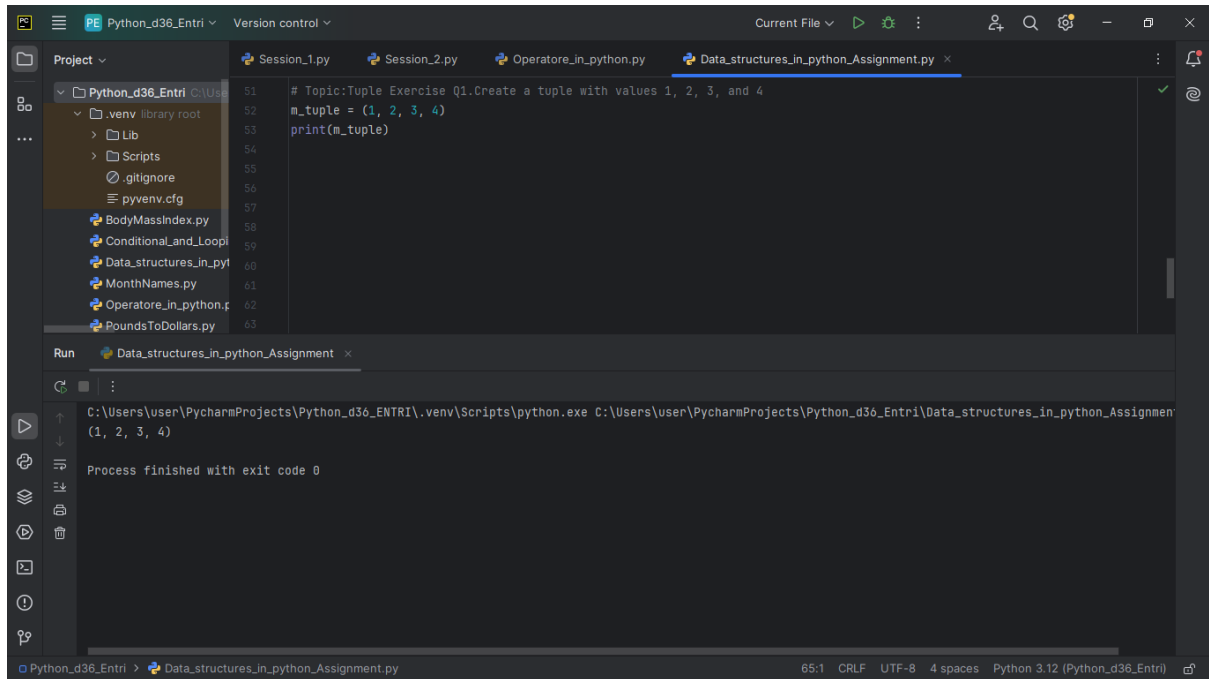
Run | Data_structures_in_python_Assignment | [Run] [Debug] [Tools] [View] [Window] [Help] | [Close] [Maximize] [Fullscreen] [Exit]

```
C:\Users\user\PycharmProjects\Python_d36_Entry\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entry\Data_structures_in_python_Assignment.py  
{1, 2, 4, 5}  
  
Process finished with exit code 0
```

Python_d36_Entry | Data_structures_in_python_Assignment.py | 48:13 | CRLF | UTF-8 | 4 spaces | Python 3.12 (Python_d36_Entry) | [Close] [Maximize] [Fullscreen] [Exit]

Topic: Tuple

Q1. Create a tuple with values 1, 2, 3, and 4.



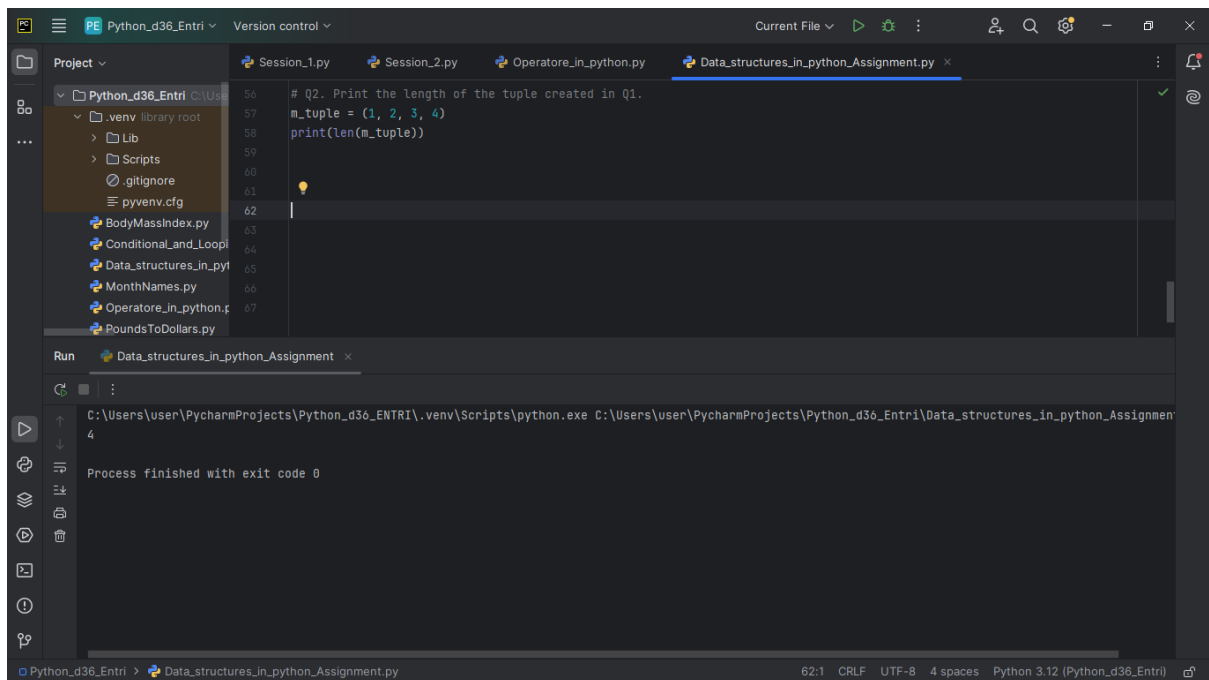
The screenshot shows the PyCharm IDE interface. The left sidebar displays the project structure for 'Python_d36_Entri'. The main editor window shows the file 'Data_structures_in_python_Assignment.py' with the following code:

```
51 # Topic: Tuple Exercise Q1. Create a tuple with values 1, 2, 3, and 4
52 m_tuple = (1, 2, 3, 4)
53 print(m_tuple)
54
55
56
57
58
59
60
61
62
63
```

The Run window at the bottom shows the execution output:

```
C:\Users\user\PycharmProjects\Python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entri\Data_structures_in_python_Assignment.py
(1, 2, 3, 4)
Process finished with exit code 0
```

Q2. Print the length of the tuple created in Q1.



The screenshot shows the PyCharm IDE interface. The left sidebar displays the project structure for 'Python_d36_Entri'. The main editor window shows the file 'Data_structures_in_python_Assignment.py' with the following code:

```
56 # Q2. Print the length of the tuple created in Q1.
57 m_tuple = (1, 2, 3, 4)
58 print(len(m_tuple))
59
60
61
62
63
64
65
66
67
```

The Run window at the bottom shows the execution output:

```
C:\Users\user\PycharmProjects\Python_d36_ENTRI\.venv\Scripts\python.exe C:\Users\user\PycharmProjects\Python_d36_Entri\Data_structures_in_python_Assignment.py
4
Process finished with exit code 0
```