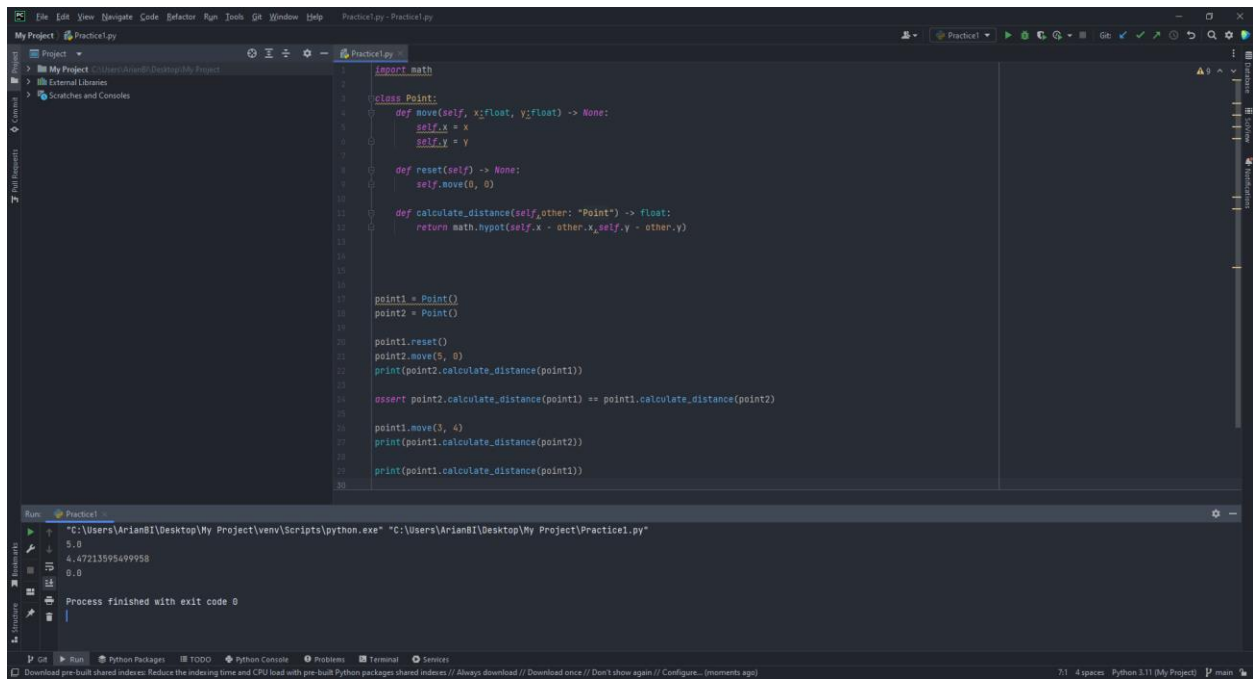


Practice 1

By Arian Baharvand Irannia

1- At first we have to run example in pycharm IDE :



The screenshot shows the PyCharm IDE interface. The main editor window displays a Python script named `Practice1.py`. The script defines a `Point` class with methods `move`, `reset`, and `calculate_distance`. It then creates two `Point` objects, `point1` and `point2`, and performs several operations on them, including moving and calculating distances. The script ends with an assertion that the distance between `point1` and `point2` is zero.

```
1 import math
2
3 class Point:
4     def move(self, x:float, y:float) -> None:
5         self.x = x
6         self.y = y
7
8     def reset(self) -> None:
9         self.move(0, 0)
10
11     def calculate_distance(self, other: "Point") -> float:
12         return math.hypot(self.x - other.x, self.y - other.y)
13
14
15 point1 = Point()
16 point2 = Point()
17
18 point1.reset()
19 point2.move(5, 0)
20 print(point2.calculate_distance(point1))
21
22 assert point2.calculate_distance(point1) == point1.calculate_distance(point2)
23
24 point1.move(3, 4)
25 print(point1.calculate_distance(point2))
26 print(point1.calculate_distance(point1))
27
```

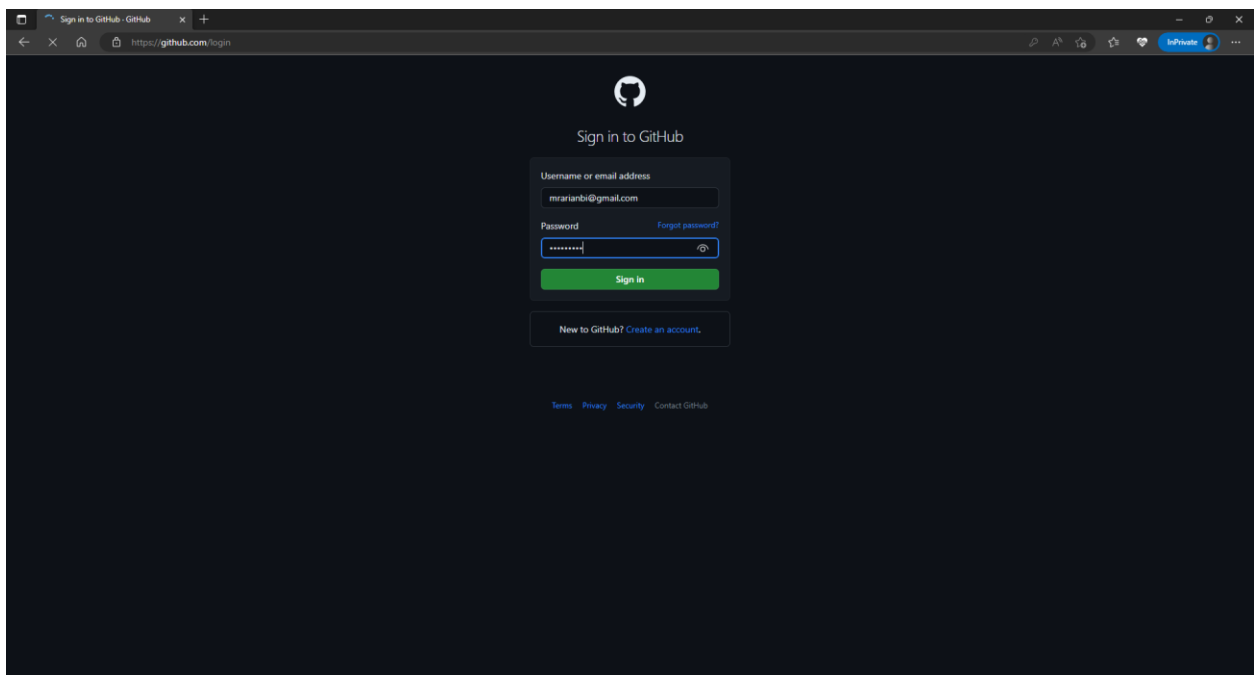
The Run tool window at the bottom shows the execution output. The command executed is `"C:\Users\ArianBI\Desktop\My Project\venv\Scripts\python.exe" "C:\Users\ArianBI\Desktop\My Project\Practice1.py"`. The output shows the following values:

```
5.0
4.47213595499958
0.0
```

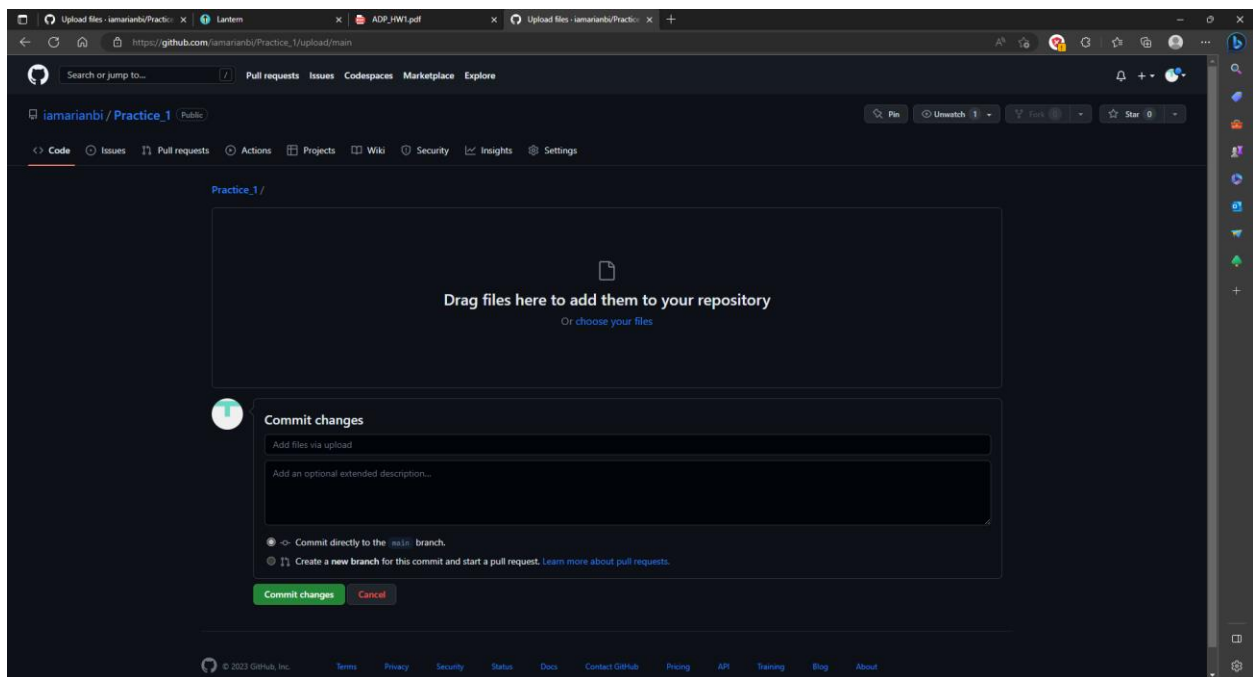
The process finished with exit code 0.

2- At this stage, we need to create a GitHub account...

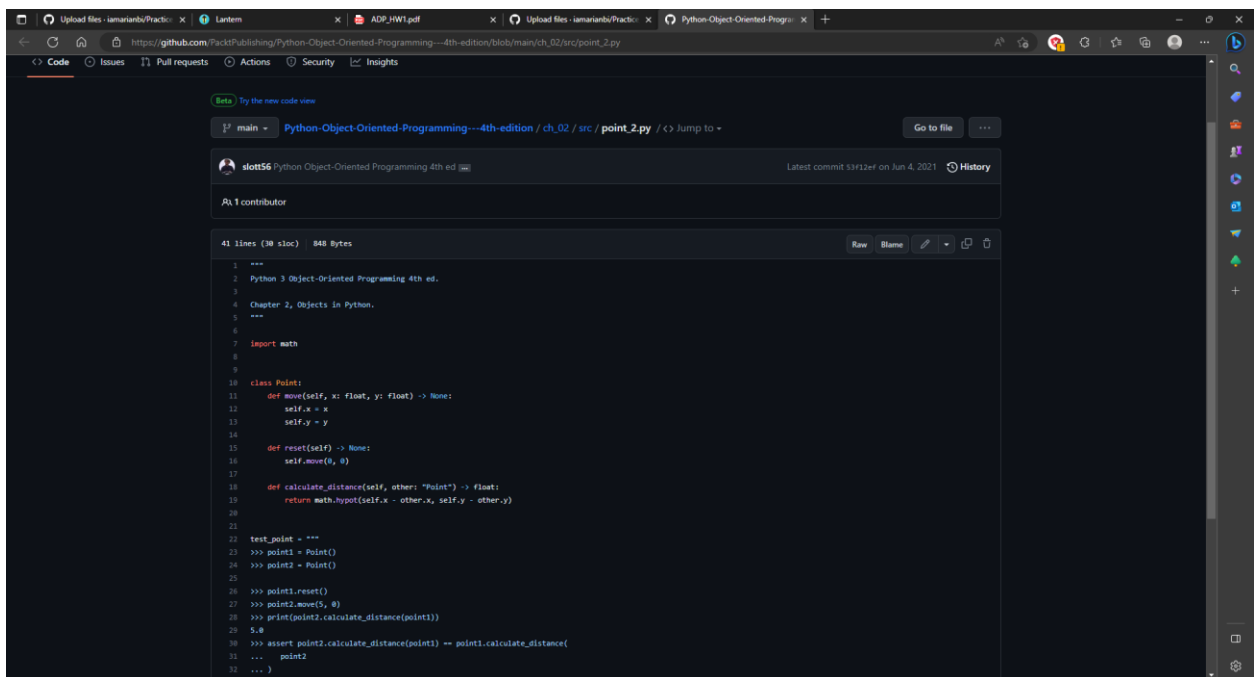
It should be mentioned that I already had one :



3- Now we can upload files in our repository :



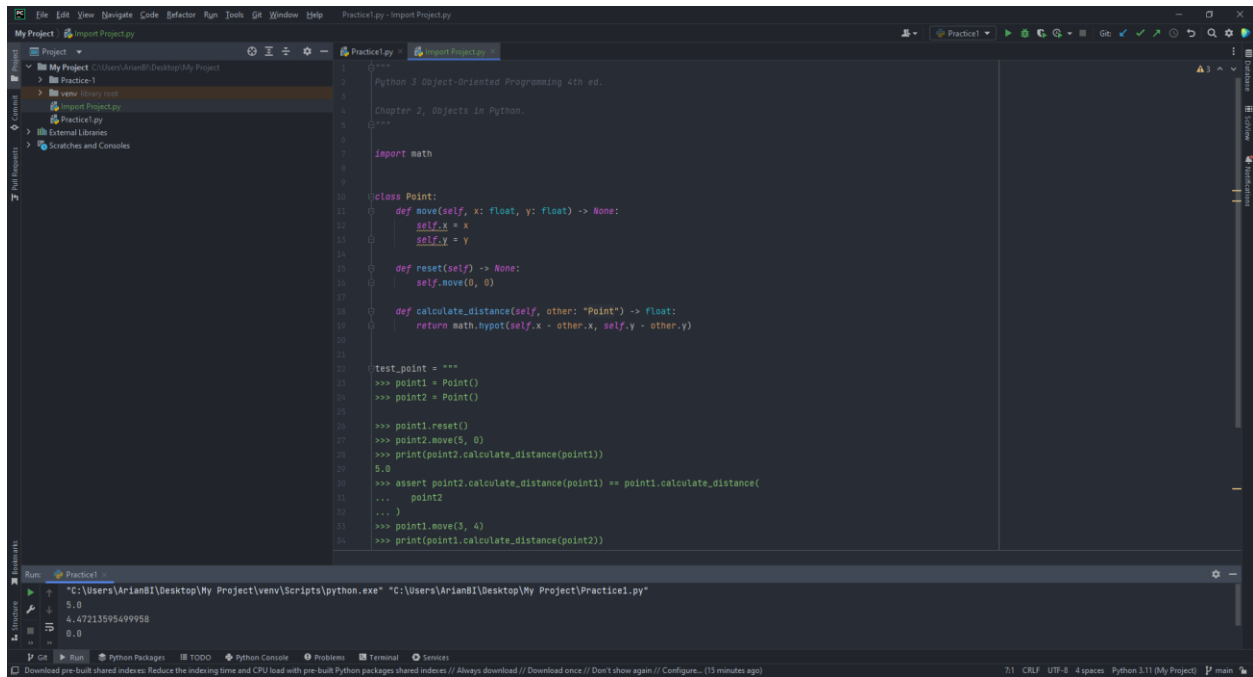
4- At this stage, we can copy the code and paste it in Pycharm IDE :



The screenshot shows a web browser displaying a GitHub repository page. The browser's address bar shows the URL: `https://github.com/FackPublishing/Python-Object-Oriented-Programming---4th-edition/blob/main/ch_02/src/point_2.py`. The page title is "Python-Object-Oriented-Programming---4th-edition / ch_02 / src / point_2.py". The repository is owned by "slot56" and is named "Python-Object-Oriented-Programming 4th ed". The latest commit is "33f12ef" on Jun 4, 2021. The code is displayed in a dark-themed editor with a line number column on the left. The code is a Python file named `point_2.py` and contains the following content:

```
1  """
2  Python 3 Object-Oriented Programming 4th ed.
3
4  Chapter 2, Objects in Python.
5  """
6
7  import math
8
9
10 class Point:
11     def move(self, x: float, y: float) -> None:
12         self.x = x
13         self.y = y
14
15     def reset(self) -> None:
16         self.move(0, 0)
17
18     def calculate_distance(self, other: "Point") -> float:
19         return math.hypot(self.x - other.x, self.y - other.y)
20
21
22 test_point = """
23 >>> point1 = Point()
24 >>> point2 = Point()
25
26 >>> point1.reset()
27 >>> point2.move(5, 0)
28 >>> print(point2.calculate_distance(point1))
29 5.0
30 >>> assert point2.calculate_distance(point1) == point1.calculate_distance(
31 ... point2
32 ... )
```

5- Finally, run the code in IDE :



The screenshot shows an IDE window titled "Practice1.py - Import Project.py". The editor displays a Python script for a `Point` class. The code includes docstrings, an `import math` statement, and methods `move`, `reset`, and `calculate_distance`. A test section at the bottom creates two `Point` objects, `point1` and `point2`, and performs several operations on them, including moving and calculating distances. The `Run` button is highlighted in the toolbar. Below the editor, the `Run` console shows the command used to execute the script and the resulting output.

```
'''
Python 3 Object-Oriented Programming 4th ed.

Chapter 2, Objects in Python.
'''

import math

class Point:
    def move(self, x: float, y: float) -> None:
        self.x = x
        self.y = y

    def reset(self) -> None:
        self.move(0, 0)

    def calculate_distance(self, other: "Point") -> float:
        return math.hypot(self.x - other.x, self.y - other.y)

test_point = '''
>>> point1 = Point()
>>> point2 = Point()

>>> point1.reset()
>>> point2.move(5, 0)
>>> print(point2.calculate_distance(point1))
5.0

>>> assert point2.calculate_distance(point1) == point1.calculate_distance(
... point2
... )
>>> point1.move(3, 4)
>>> print(point1.calculate_distance(point2))
'''
```

Run Practice1

```
"C:\Users\ArianBI\Desktop\My Project\venv\Scripts\python.exe" "C:\Users\ArianBI\Desktop\My Project\Practice1.py"
5.0
4.47213595499958
0.0
```

Download pre-built shared indexes: Reduce the indexing time and CPU load with pre-built Python packages shared indexes // Always download // Download once // Don't show again // Configure... (15 minutes ago)

71 CHLF UTF-8 4 spaces Python 3.11 (My Project) main