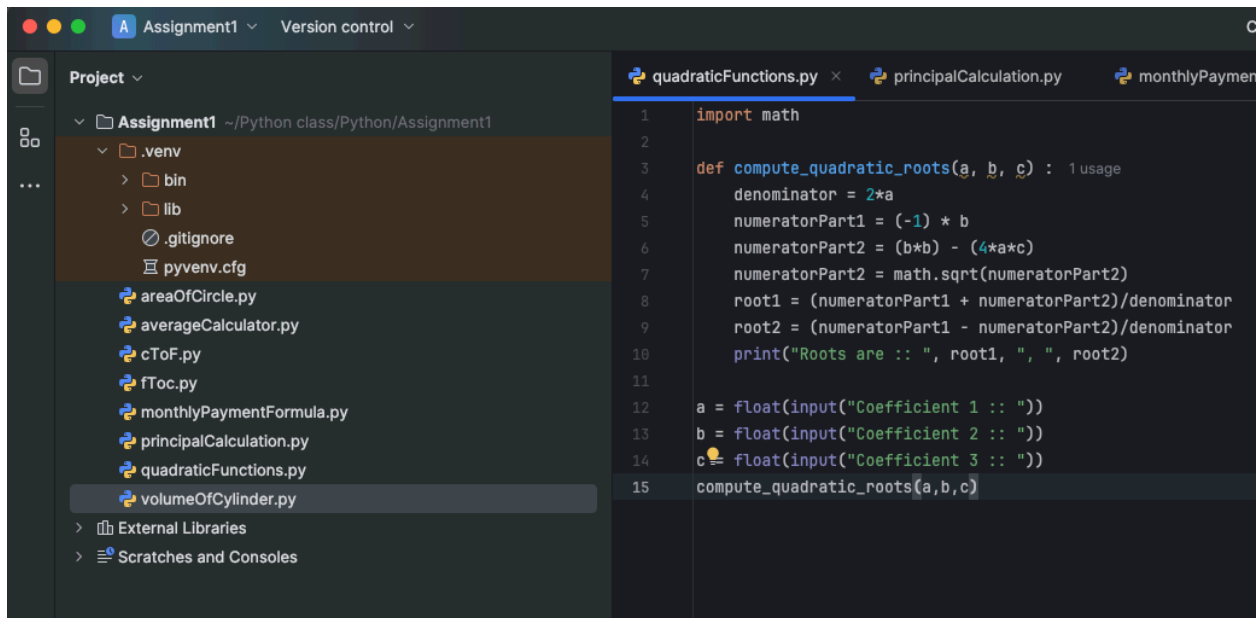


Python Assignment 1

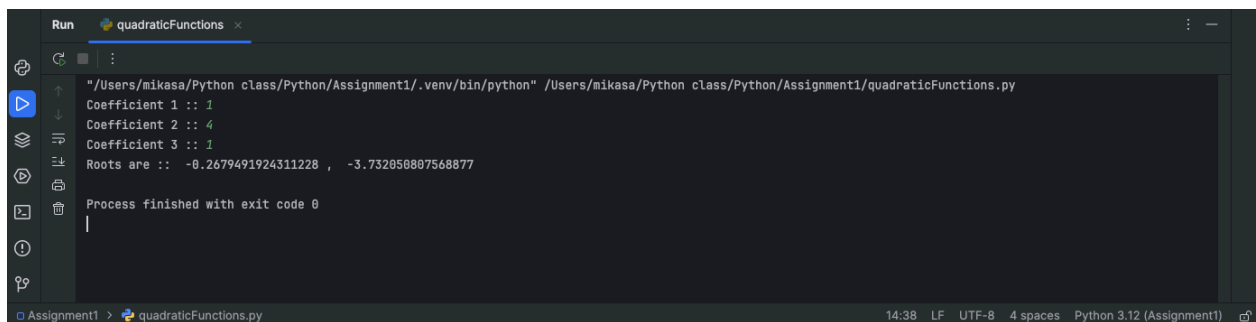
Ria Thapa
1212086

Q1. Sample code:

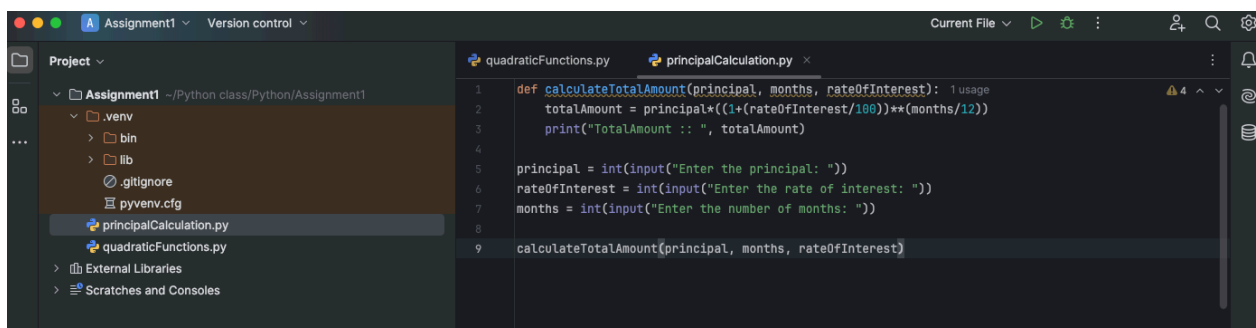


```
1 import math
2
3 def compute_quadratic_roots(a, b, c): 1 usage
4     denominator = 2*a
5     numeratorPart1 = (-1) * b
6     numeratorPart2 = (b*b) - (4*a*c)
7     numeratorPart2 = math.sqrt(numeratorPart2)
8     root1 = (numeratorPart1 + numeratorPart2)/denominator
9     root2 = (numeratorPart1 - numeratorPart2)/denominator
10    print("Roots are :: ", root1, ", ", root2)
11
12 a = float(input("Coefficient 1 :: "))
13 b = float(input("Coefficient 2 :: "))
14 c = float(input("Coefficient 3 :: "))
15 compute_quadratic_roots(a,b,c)
```

Output:



```
Run quadraticFunctions.py
"/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python" /Users/mikasa/Python class/Python/Assignment1/quadraticFunctions.py
Coefficient 1 :: 1
Coefficient 2 :: 4
Coefficient 3 :: 1
Roots are :: -0.2679491924311228 , -3.732050807568877
Process finished with exit code 0
```



```
1 def calculateTotalAmount(principal, months, rateOfInterest): 1 usage
2     totalAmount = principal*((1+(rateOfInterest/100))*(months/12))
3     print("TotalAmount :: ", totalAmount)
4
5 principal = int(input("Enter the principal: "))
6 rateOfInterest = int(input("Enter the rate of interest: "))
7 months = int(input("Enter the number of months: "))
8
9 calculateTotalAmount(principal, months, rateOfInterest)
```

Q2. Sample code:

Output:

```
Run principalCalculation x
/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python /Users/mikasa/Python class/Python/Assignment1/principalCalculation.py
Enter the principal: 10000
Enter the rate of interest: 5
Enter the number of months: 36
TotalAmount :: 11576.250000000002
Process finished with exit code 0
```

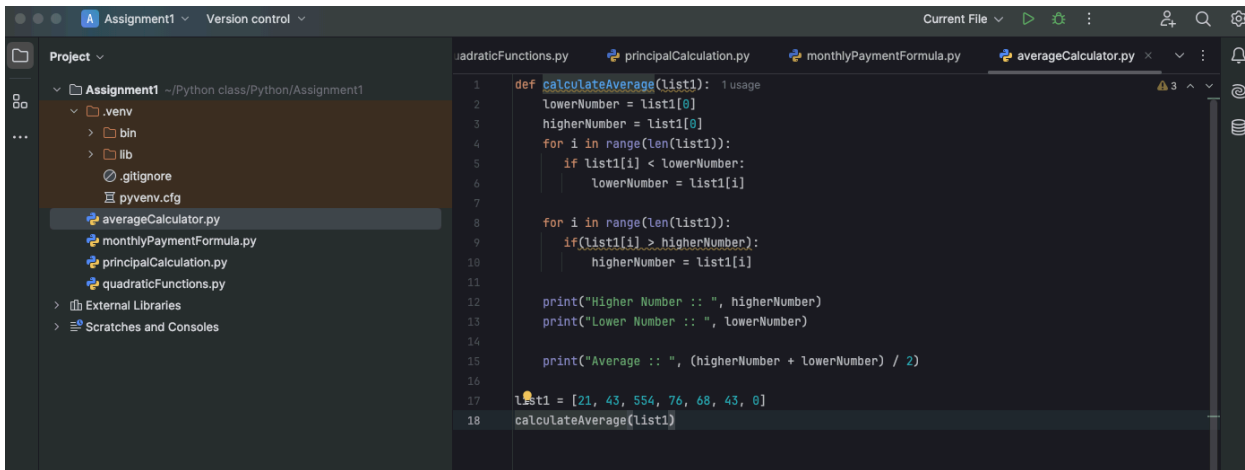
Q3. Sample code:

```
Assignment1 Version control
Project
  Assignment1 ~/Python class/Python/Assignment1
    .venv
      bin
      lib
      .gitignore
      pyvenv.cfg
    areaOfCircle.py
    Assignment1_1212086.pages
    averageCalculator.py
    cToF.py
    fToC.py
    monthlyPayment.py
    monthlyPaymentFormula.py
    principalCalculation.py
    quadraticFunctions.py
    volumeOfCylinder.py
  External Libraries
  Scratches and Consoles
quadraticFunctions.py monthlyPayment.py principalCalculation.py
1 def computeMonthlyPayment(amt, rate, months):
2     term1 = (1 + (rate/1200))*months
3     numerator = rate*term1
4     denominator = (1200*term1)-1
5     finalTerm = numerator/denominator
6     monthlyPayment = finalTerm*amt
7     print("Monthly Payment :: ", monthlyPayment)
8
9     amt = float(input("Enter amount :: "))
10    rate = float(input("Rate :: "))
11    months = float(input("Enter months :: "))
12    computeMonthlyPayment(amt, rate, months)
```

Output:

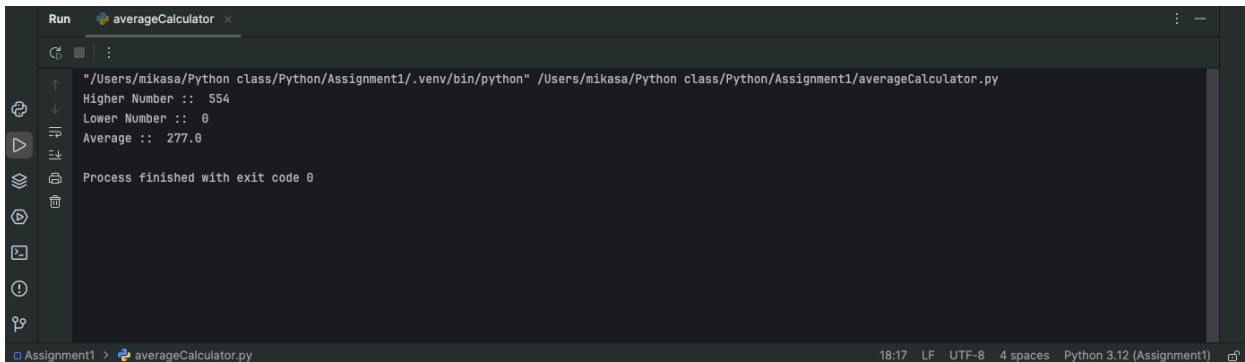
```
Run monthlyPayment x
/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python /Users/mikasa/Python class/Python/Assignment1/monthlyPayment.py
Enter amount :: 30000
Rate :: 34
Enter months :: 23
Monthly Payment :: 850.3726902612483
Process finished with exit code 0
```

Q4. Sample code:



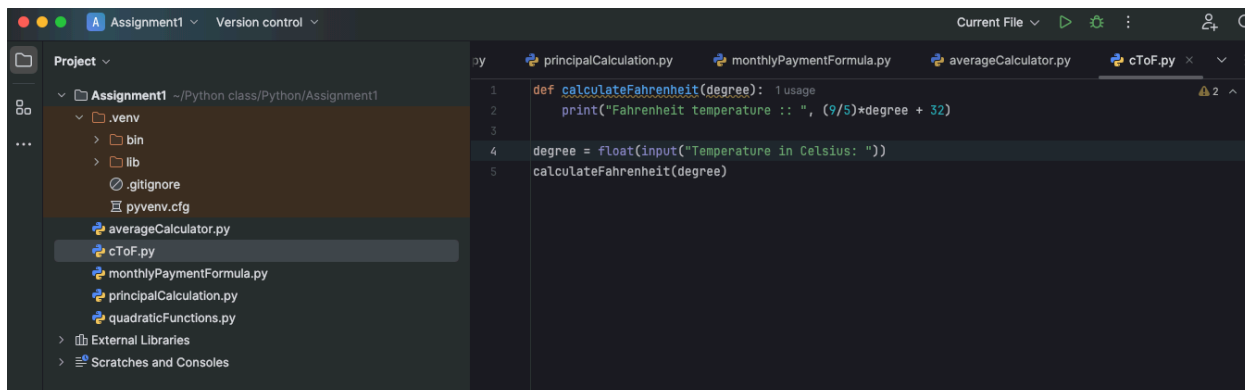
```
1 def calculateAverage(list1):
2     lowerNumber = list1[0]
3     higherNumber = list1[0]
4     for i in range(len(list1)):
5         if list1[i] < lowerNumber:
6             lowerNumber = list1[i]
7
8     for i in range(len(list1)):
9         if list1[i] > higherNumber:
10            higherNumber = list1[i]
11
12    print("Higher Number :: ", higherNumber)
13    print("Lower Number :: ", lowerNumber)
14
15    print("Average :: ", (higherNumber + lowerNumber) / 2)
16
17    list1 = [21, 43, 554, 76, 68, 43, 0]
18    calculateAverage(list1)
```

Output:



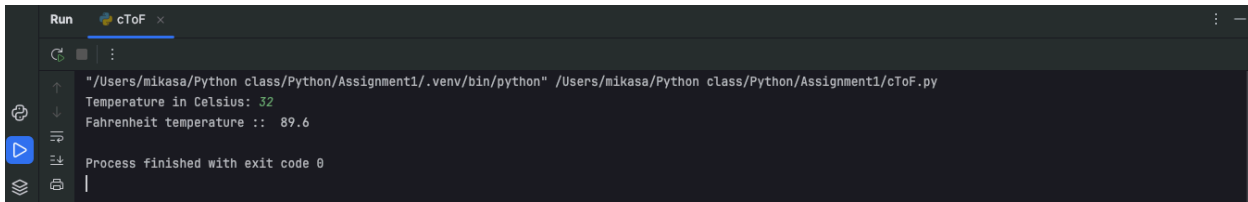
```
Run averageCalculator
"/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python" /Users/mikasa/Python class/Python/Assignment1/averageCaLculator.py
Higher Number :: 554
Lower Number :: 0
Average :: 277.0
Process finished with exit code 0
```

Q5. Sample code:



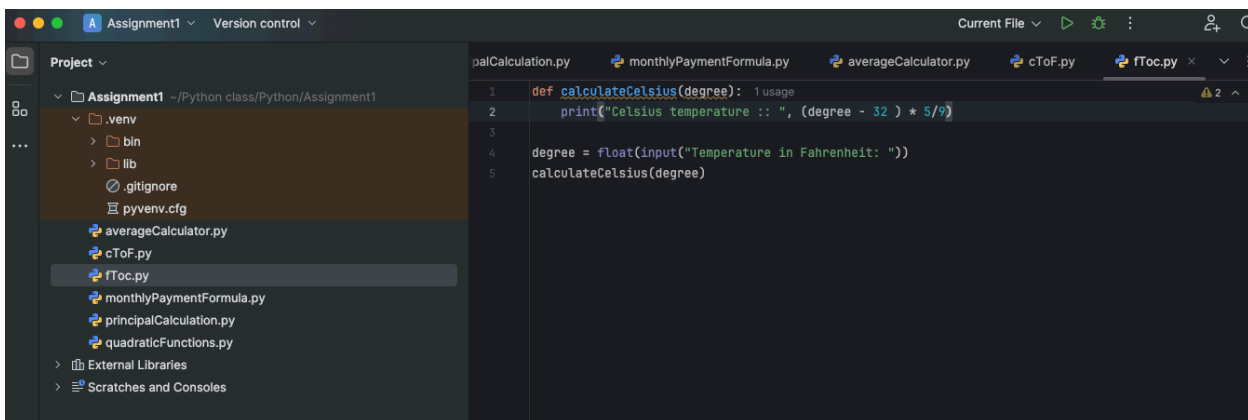
```
1 def calculateFahrenheit(degree):
2     print("Fahrenheit temperature :: ", (9/5)*degree + 32)
3
4 degree = float(input("Temperature in Celsius: "))
5 calculateFahrenheit(degree)
```

Output:



```
Run cToF x
"/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python" /Users/mikasa/Python class/Python/Assignment1/cToF.py
Temperature in Celsius: 32
Fahrenheit temperature :: 89.6
Process finished with exit code 0
```

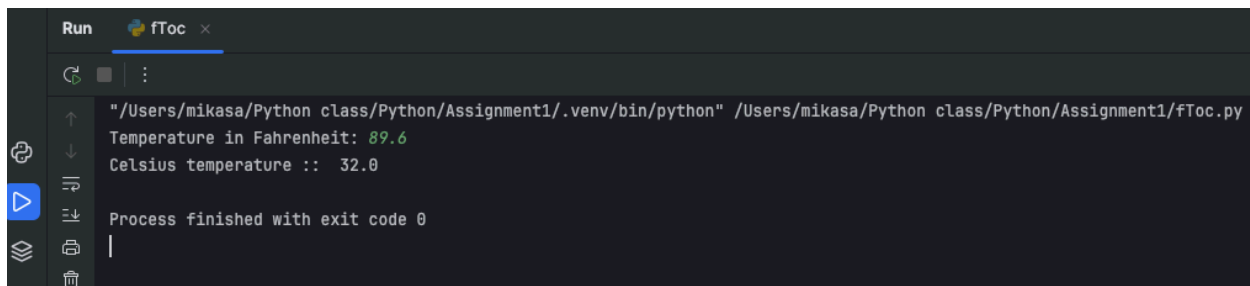
Q6. Sample code:



```
Assignment1 Version control Current File
Project ~/Python class/Python/Assignment1
  .venv
  bin
  lib
  .gitignore
  pyvenv.cfg
  averageCalculator.py
  cToF.py
  fToc.py
  monthlyPaymentFormula.py
  principalCalculation.py
  quadraticFunctions.py
  External Libraries
  Scratches and Consoles

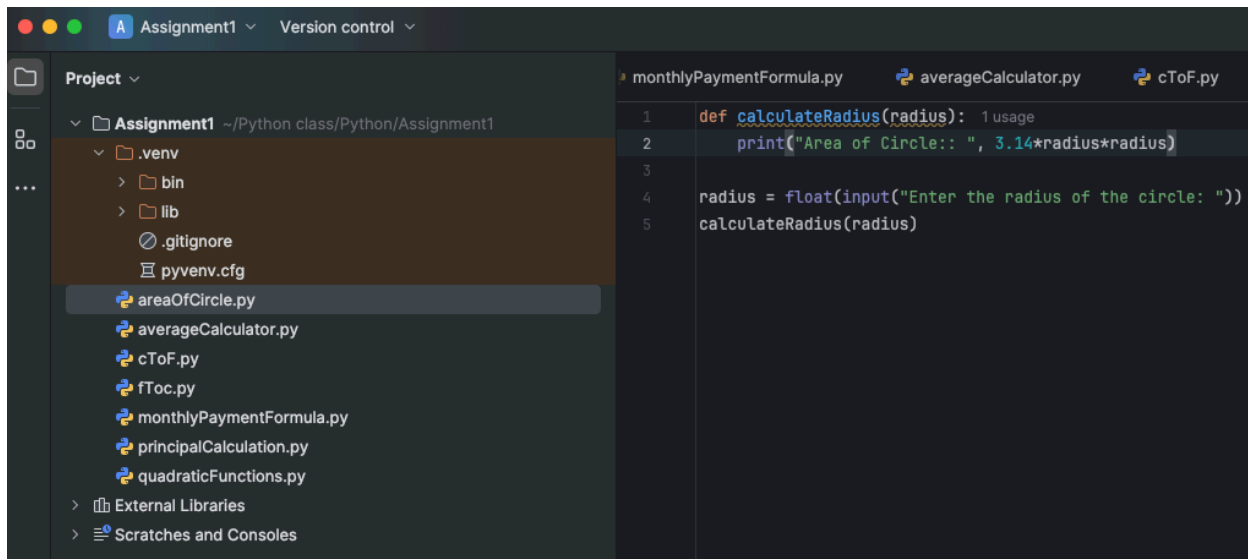
palCalculation.py monthlyPaymentFormula.py averageCalculator.py cToF.py fToc.py
1 def calculateCelsius(degree): 1 usage
2     print("Celsius temperature :: ", (degree - 32 ) * 5/9)
3
4 degree = float(input("Temperature in Fahrenheit: "))
5 calculateCelsius(degree)
```

Output:



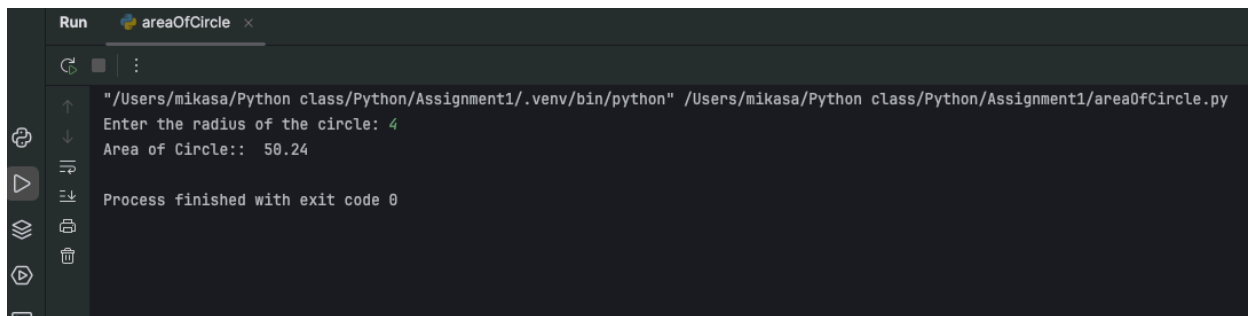
```
Run fToc x
"/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python" /Users/mikasa/Python class/Python/Assignment1/fToc.py
Temperature in Fahrenheit: 89.6
Celsius temperature :: 32.0
Process finished with exit code 0
```

Q7. Sample code:



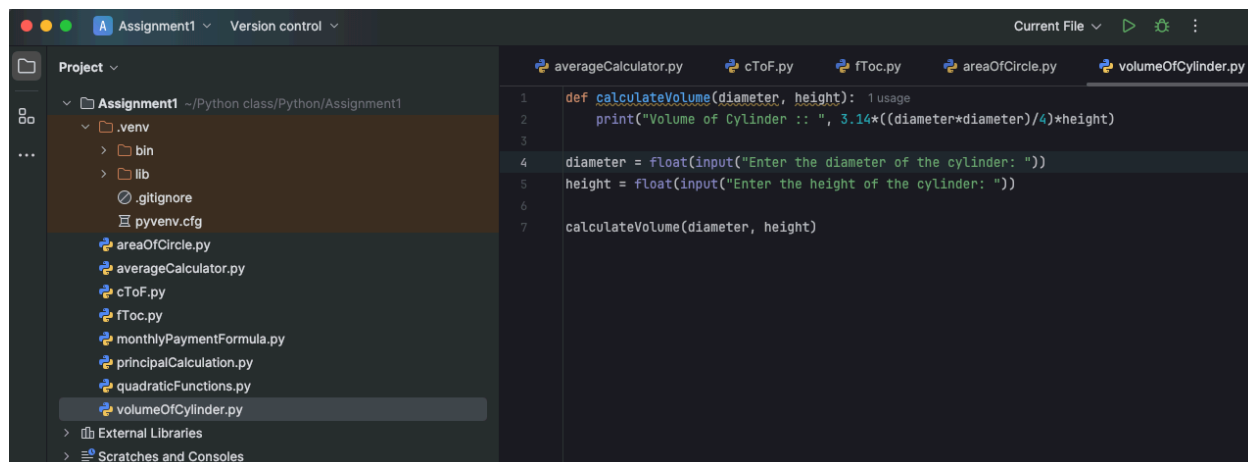
```
1 def calculateRadius(radius): 1 usage
2     print("Area of Circle:: ", 3.14*radius*radius)
3
4 radius = float(input("Enter the radius of the circle: "))
5 calculateRadius(radius)
```

Output:



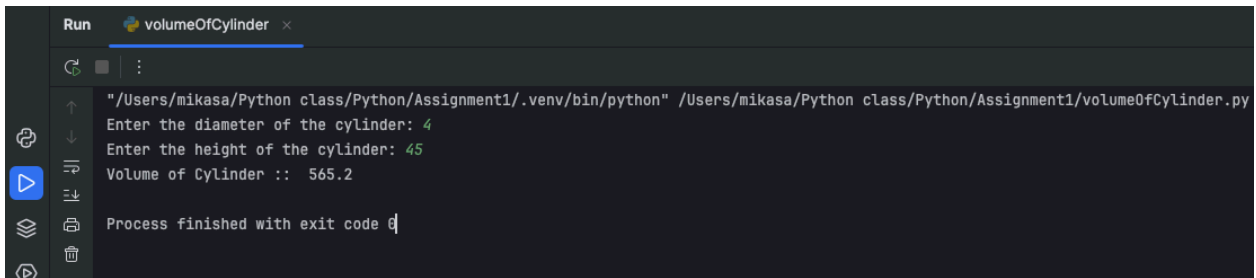
```
"/Users/mikasa/Python class/Python/Assignment1/.env/bin/python" /Users/mikasa/Python class/Python/Assignment1/areaOfCircle.py
Enter the radius of the circle: 4
Area of Circle:: 50.24
Process finished with exit code 0
```

Q8. Sample code:



```
1 def calculateVolume(diameter, height): 1 usage
2     print("Volume of Cylinder :: ", 3.14*((diameter*diameter)/4)*height)
3
4 diameter = float(input("Enter the diameter of the cylinder: "))
5 height = float(input("Enter the height of the cylinder: "))
6
7 calculateVolume(diameter, height)
```

Output:



The screenshot shows a terminal window titled "Run" with a tab for "volumeOfCylinder". The terminal displays the command to run a Python script, followed by user input for diameter and height, the calculated volume, and a confirmation message.

```
"/Users/mikasa/Python class/Python/Assignment1/.venv/bin/python" /Users/mikasa/Python class/Python/Assignment1/volumeOfCylinder.py
Enter the diameter of the cylinder: 4
Enter the height of the cylinder: 45
Volume of Cylinder :: 565.2
Process finished with exit code 0
```