



World University of Bangladesh

Course Title: Artificial Intelligence and & Neural Networks Lab

Course Code: CSE 1111

Submitted By

Nawshin Tasnim

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Batch – 43/A

Roll – 2745

Department of – Computer Science & Engineering

Submitted To

Md. Nazmus Sakib,

Lecturer, CSE

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1. Write a program that accepts the lengths of three sides of a triangle as inputs. The program output should indicate whether or not the triangle is an equilateral triangle.

Answer:

```
print("Input lengths of the triangle sides: ")
x = int(input("x: "))
y = int(input("y: "))
z = int(input("z: "))
if x == y == z:
    print("Equilateral triangle")
else:
    print("Not Equilateral triangle")
```

Output:

Equilateral triangle



```
Input lengths of the triangle sides:
x: 15
y: 15
z: 15
Equilateral triangle

Process finished with exit code 0
```

Not Equilateral triangle



```
Input lengths of the triangle sides:
x: 12
y: 12
z: 13
Not Equilateral triangle

Process finished with exit code 0
```

2. An employee's total weekly pay equals the hourly wage multiplied by the total number of regular hours plus any overtime pay. Overtime pay equals the total overtime hours multiplied by 1.5 times the hourly wage. Write a program that takes as inputs the hourly wage, total regular hours, and total overtime hours and displays an employee's total weekly pay.

Answer:

```
hourlywage = float(input("Enter the wage: $"))
regularHours = float(input("Enter the regular hours: "))
overtimeHours = float(input("Enter the overtime hours: "))
weeklyPay = (hourlywage * regularHours) + (1.5 * hourlywage *
overtimeHours)
print ("\n\nThe total weekly pay is $",weeklyPay)
```

Output

```
Enter the wage: 12
Enter the regular hours: 8
Enter the overtime hours: 4

The total weekly pay is $ 168.0

Process finished with exit code 0
```

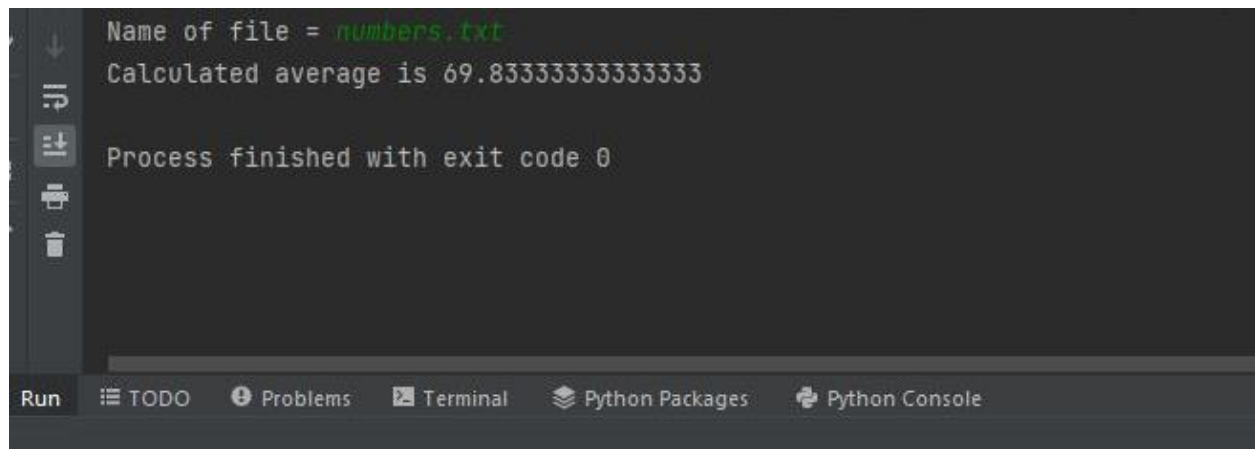


3. Write a program that computes and prints the average of the numbers in a text file. You should make use of two higher-order functions to simplify the design.

Answer:

```
file = input("Name of file = ")
data = open(file, "r")
info = data.read().split()
numbers = []
for line in info:
    numbers.append(int(line))
data.close()
avg = float(sum(numbers)) / len(numbers)
print("Calculated average is", avg)
```

Output:



A screenshot of a terminal window with a dark background. On the left side, there is a vertical toolbar with icons for running, debugging, and other actions. The terminal text shows the program's output: the file name 'numbers.txt' is printed in green, followed by the calculated average, and a confirmation message at the bottom. The bottom of the window features a horizontal toolbar with buttons for 'Run', 'TODO', 'Problems', 'Terminal', 'Python Packages', and 'Python Console'.

```
Name of file = numbers.txt  
Calculated average is 69.83333333333333  
  
Process finished with exit code 0
```

Run TODO Problems Terminal Python Packages Python Console