



UNIVERSITY OF KARACHI

MATHEMATICS DEPARTMENT

Assignment of

PYTHON PROGRAMMING LANGUAGE-I

Name: Sadaf Azhar

Father Name: M. Azhar Hameed

Seat No: EB-20202071

Submitted To: Sir Umaid Ahmed

Program No # 01

Area of a Circle

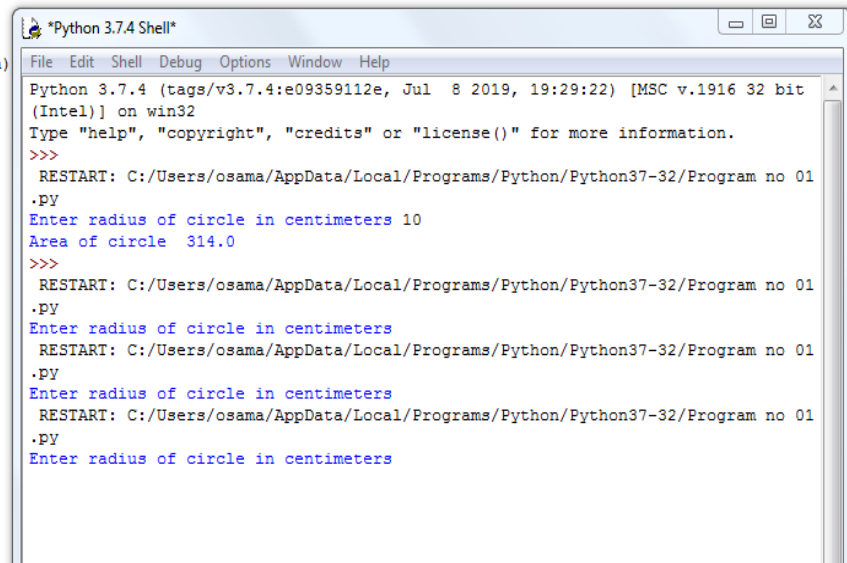
```
#Area of a Circle
```

```
pi=3.14
```

```
r = float(input("Enter radius of circle in centimeters"))
```

```
area = pi*r**2
```

```
print("Area of circle ",area)
```



```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/Program no 01
.py
Enter radius of circle in centimeters 10
Area of circle 314.0
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/Program no 01
.py
Enter radius of circle in centimeters
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/Program no 01
.py
Enter radius of circle in centimeters
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/Program no 01
.py
Enter radius of circle in centimeters
```

Program No# 02

Euclidean Distance

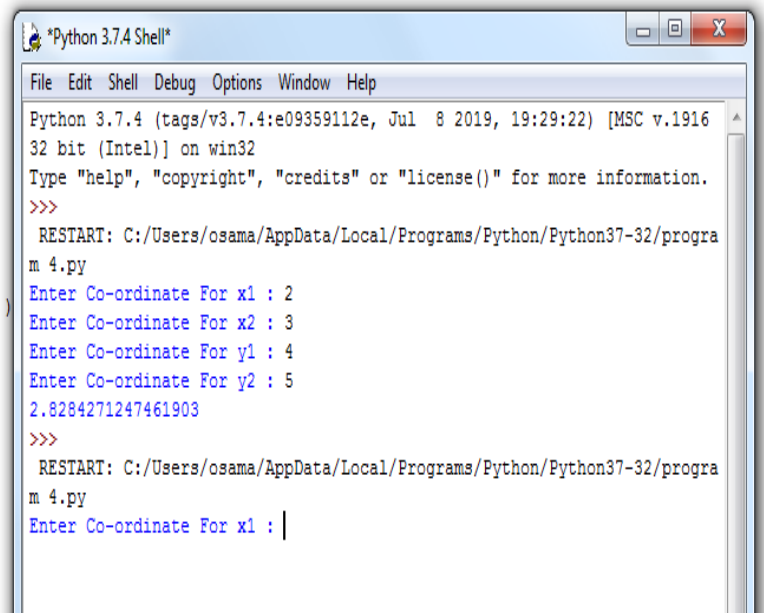
```
# Euclidean Distance
```

```
import math
```

```
x1 = int(input("Enter Co-ordinate For x1 : "))
x2 = int(input("Enter Co-ordinate For x2 : "))
y1 = int(input("Enter Co-ordinate For y1 : "))
y2 = int(input("Enter Co-ordinate For y2 : "))

distance = math.sqrt( ((x1-y1)**2)+( (x2-y2)**2) )

print(distance)
```



```
*Python 3.7.4 Shell*
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916
32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/progra
m 4.py
Enter Co-ordinate For x1 : 2
Enter Co-ordinate For x2 : 3
Enter Co-ordinate For y1 : 4
Enter Co-ordinate For y2 : 5
2.8284271247461903
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/progra
m 4.py
Enter Co-ordinate For x1 : |
```

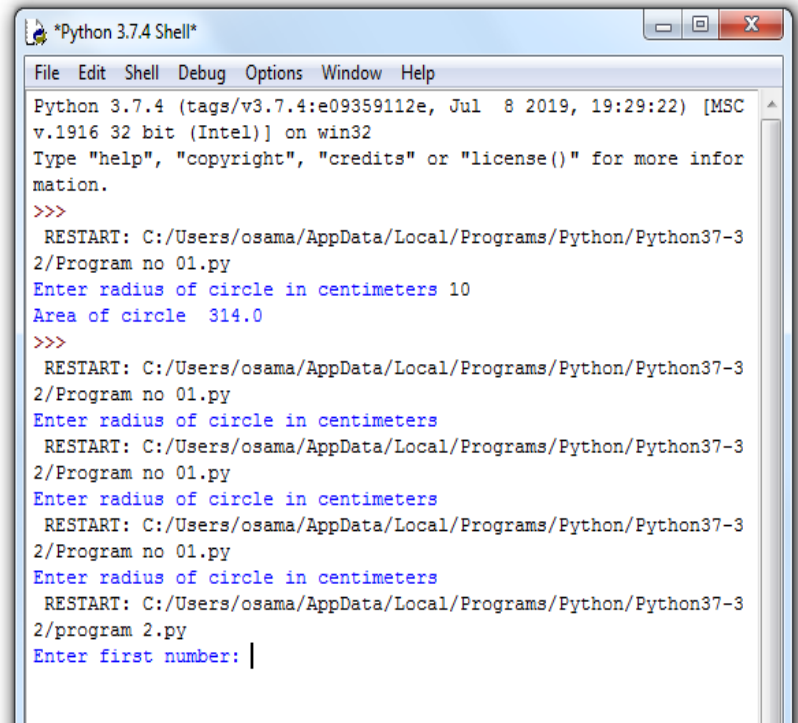
Program No #03

Median of three values

```
#Median of three values
```

```
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
c = float(input("Enter third number: "))
if a > b:
    if a < c:
        median = b
    elif b > c:
        median = b
    else:
        median = c
else:
    if a > c:
        median = a
    elif b < c:
        median = b
    else:
        median = c

print("The median is",median)
```



```
*Python 3.7.4 Shell*
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC
v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more infor
mation.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-3
2/Program no 01.py
Enter radius of circle in centimeters 10
Area of circle 314.0
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-3
2/Program no 01.py
Enter radius of circle in centimeters
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-3
2/Program no 01.py
Enter radius of circle in centimeters
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-3
2/Program no 01.py
Enter radius of circle in centimeters
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-3
2/program 2.py
Enter first number: |
```

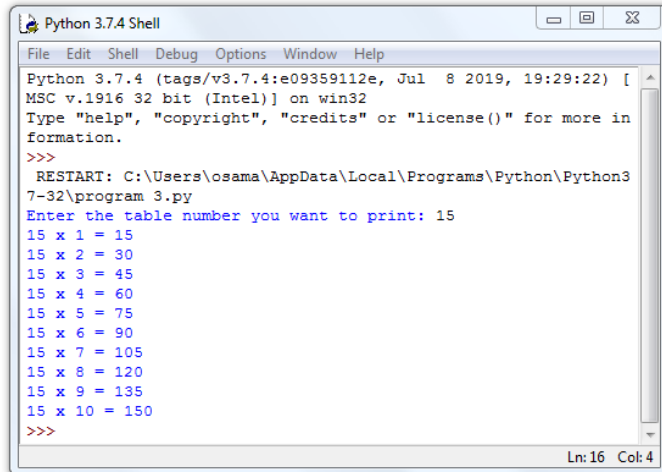
Program No # 04

Multiplication Table

```
#multiplication table

table_number = int(input("Enter the table number you want to print: "))

for n in range(1,11):
    print(table_number,"x", n, "=", table_number*n)
```



```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [
MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more in
formation.
>>>
RESTART: C:\Users\osama\AppData\Local\Programs\Python\Python3
7-32\program 3.py
Enter the table number you want to print: 15
15 x 1 = 15
15 x 2 = 30
15 x 3 = 45
15 x 4 = 60
15 x 5 = 75
15 x 6 = 90
15 x 7 = 105
15 x 8 = 120
15 x 9 = 135
15 x 10 = 150
>>>
```

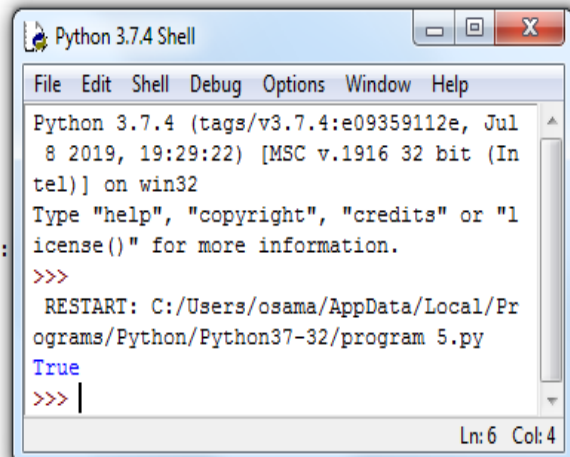
Program No # 05

String is Palindrome or Not

```
#checkind whether the string is Palindrome or Not
```

```
def is_Palindrome(string):
    left_pos = 0
    right_pos = len(string) - 1

    while right_pos >= left_pos:
        if not string[left_pos] == string[right_pos]:
            return False
        left_pos += 1
        right_pos -= 1
    return True
print(is_Palindrome('aza'))
```



```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul
8 2019, 19:29:22) [MSC v.1916 32 bit (In
tel)] on win32
Type "help", "copyright", "credits" or "l
icense()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Pr
ograms/Python/Python37-32/program 5.py
True
>>> |
```

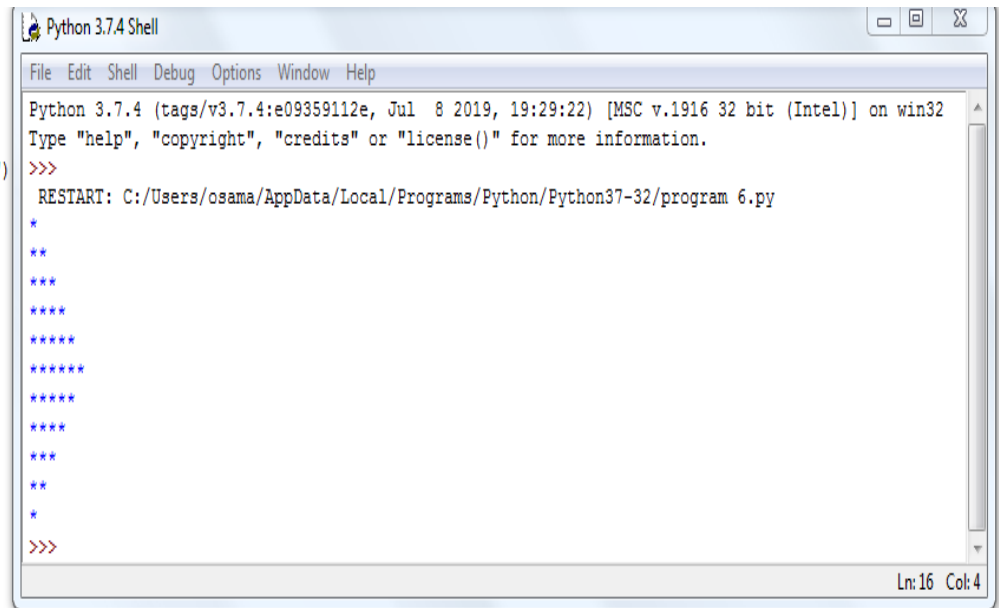
Program No # 06

Pattern Printing

```
# pattern printing

for i in range(1,6):
    for j in range(i):
        print('*', end=" ")
    print()

for i in range(6,0,-1):
    for j in range(i):
        print('*', end=" ")
    print()
```



```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/program 6.py
*
**
***
****
*****
*****
****
***
**
*
>>>
```

Program No # 07

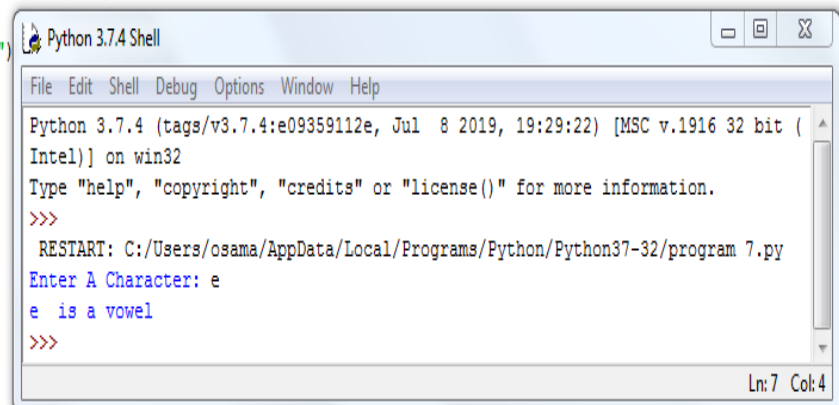
Vowel Tester

```
# vowel tester

vowels = ['A','E','I','O','U','a','e','i','o','u']

userinput = input("Enter A Character: ")

if userinput in vowels:
    print(userinput," is a vowel")
else:
    print(userinput," is not a vowel")
```



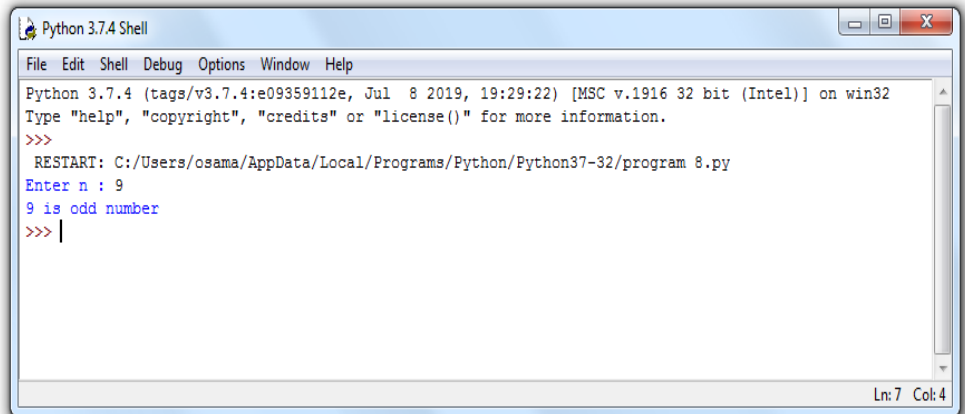
```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/program 7.py
Enter A Character: e
e is a vowel
>>>
```

Program No # 08

Number is Even or Odd

```
# checking number is Even or Odd

n = int(input("Enter n : "))
if (n%2 == 0):
    print (n,"is even number")
else:
    print (n,"is odd number")
```



```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/program 8.py
Enter n : 9
9 is odd number
>>> |
```

Program No # 09

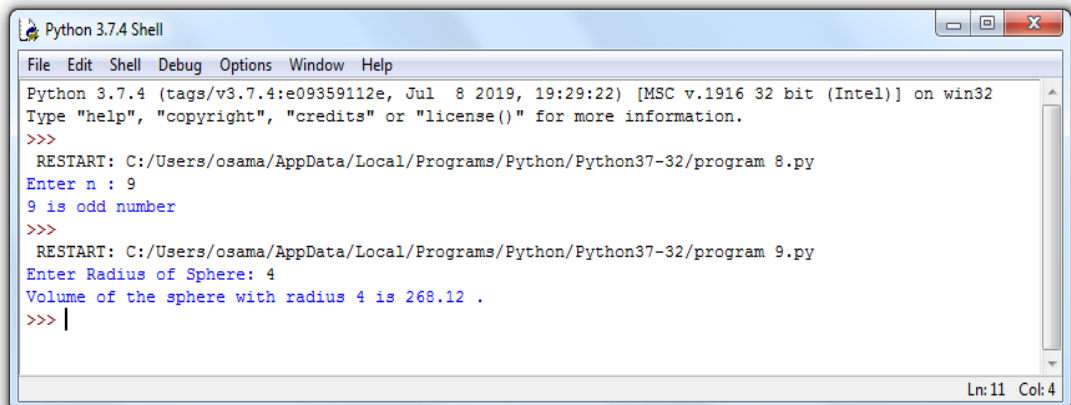
Volume of Sphere

```
# Volume of a Sphere

pi = 3.142
radius_sphere = int(input("Enter Radius of Sphere: "))

volume_of_sphere = 4/3 * pi * radius_sphere**3

print("Volume of the sphere with radius " + str(radius_sphere) + " is " + "%.2f" % volume_of_sphere + " .")
```



```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/program 8.py
Enter n : 9
9 is odd number
>>>
RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/program 9.py
Enter Radius of Sphere: 4
Volume of the sphere with radius 4 is 268.12 .
>>> |
```

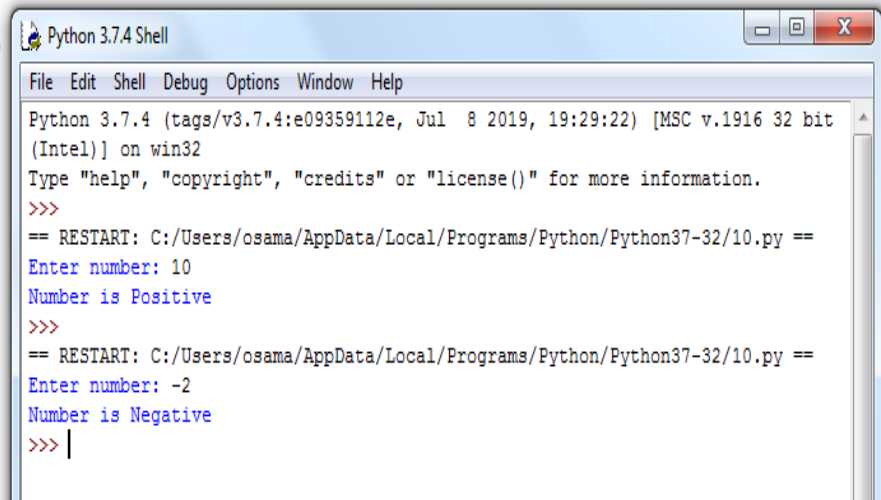
Program No # 10

Number Positive, Negative or Zero

```
# checking number either positive, negative or zero
```

```
n = int(input("Enter number: "))
```

```
if(n>0):  
    print("Number is Positive")  
elif(n<0):  
    print("Number is Negative")  
else:  
    print("Number is Zero")
```



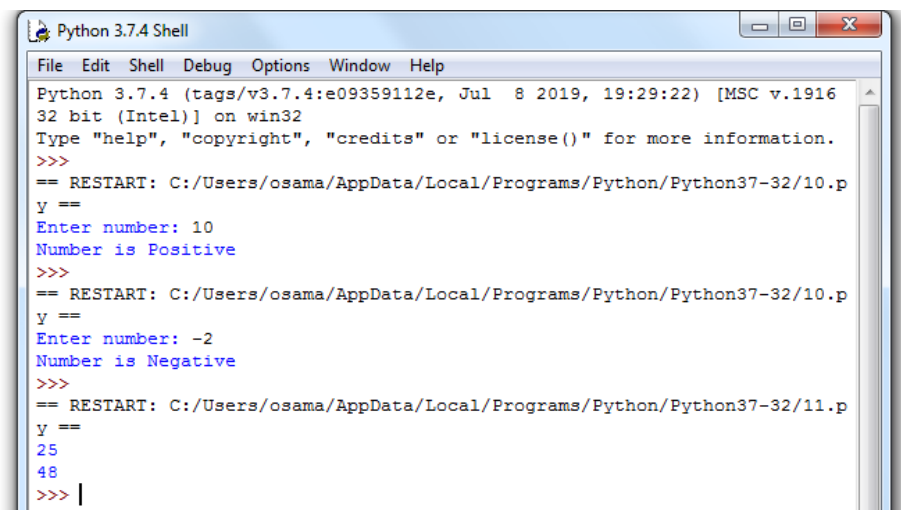
```
Python 3.7.4 Shell  
File Edit Shell Debug Options Window Help  
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>>  
== RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/10.py ==  
Enter number: 10  
Number is Positive  
>>>  
== RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/10.py ==  
Enter number: -2  
Number is Negative  
>>> |
```

Program No # 11

Lambda Function

```
# lambda function
```

```
r = lambda a : a + 15  
print(r(10))  
  
r = lambda x,y : x * y  
print(r(12, 4))
```



```
Python 3.7.4 Shell  
File Edit Shell Debug Options Window Help  
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit (Intel)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>>  
== RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/10.p  
y ==  
Enter number: 10  
Number is Positive  
>>>  
== RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/10.p  
y ==  
Enter number: -2  
Number is Negative  
>>>  
== RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/11.p  
y ==  
25  
48  
>>> |
```

Program No # 12

BMI Calculator

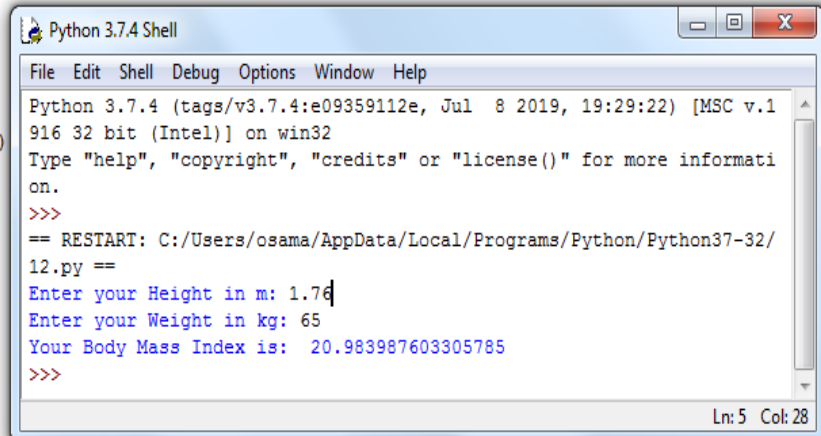
```
# BMI Calculator
```

```
x = float(input("Enter your Height in m: "))
```

```
y = float(input("Enter your Weight in kg: "))
```

```
z = y / x**2
```

```
print("Your Body Mass Index is: ",z)
```



A screenshot of a Python 3.7.4 Shell window. The window title is "Python 3.7.4 Shell". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main text area shows the following output:

```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1
916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more informati
on.
>>>
== RESTART: C:/Users/osama/AppData/Local/Programs/Python/Python37-32/
12.py ==
Enter your Height in m: 1.7
Enter your Weight in kg: 65
Your Body Mass Index is: 20.983987603305785
>>>
```

The status bar at the bottom right indicates "Ln: 5 Col: 28".