

## Worksheet – 1.3

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**Section/Group:** 809/A

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**Subject Name:** Programming in Python Lab

**Subject Code:** 20CSP-259

### 1. Aim/Overview of the practical:

- I. Write a python program to calculate area of 10 different circles. Given the  $\pi = 22/7$  and radius of the circles entered by user using Simple Function, Parameterized Function, Return Type with function and return type with parameterized Functions.
- II. Write a python program to print Multiplication tables from 2 to 20 whether table values entered by user using Simple Function, Parameterized Function, Return Type with function and return type with parameterized Functions.

### 2. Task to be done/ Which logistics used:

- I. Find area of Circle using different types of method.
- II. Calculate the Multiplication table of 2 to 20 using different types of method.

### 3. Steps for experiment/practical/Code:

- I. Find area of Circle using different types of method.

#### Source Code:

```
# Pi value initialization globally
pi=22/7

def areacir(n):
    ar = pi*(n**2)
    return ar

# Simple Function
def area7():
    a = float(input('Enter Radius 7: '))
    ar7 = pi*(a**2)
    print("Area 7 = ",ar7,"cm^2")

# Return Type with function
def area8():
    b = float(input('Enter Radius 8: '))
```

```
ar8 = pi*(b**2)
return ar8

# Parameterized Function
def area9(c):
    ar9 = pi*(c**2)
    print("Area 9 = ",ar9,"cm^2")

# Return type with parameterized Functions
def area10(d):
    ar10 = pi*(d**2)
    return ar10

#main function
def circle():
    print('Area of 10 circle is as follows: ')
    for i in range(1,7):
        n = float(input('Enter Radius { } : '.format(i)))
        area = areacir(n)
        print("Area {0} = {1} cm^2".format(i,area))

# Simple Function call
area7()

# Return Type with function call
ar8 = area8()
print("Area 8 = ",ar8,"cm^2")

# Parameterized Function call
c = float(input('Enter Radius 9: '))
area9(c)

# Return type with parameterized Functions call
d = float(input('Enter Radius 10: '))
ar10 = area10(d)
print("Area 10 = ",ar10,"cm^2")

#main function call
circle()
```

## II. Calculate the Multiplication table of 2 to 20 using different types of method.

### Source Code:

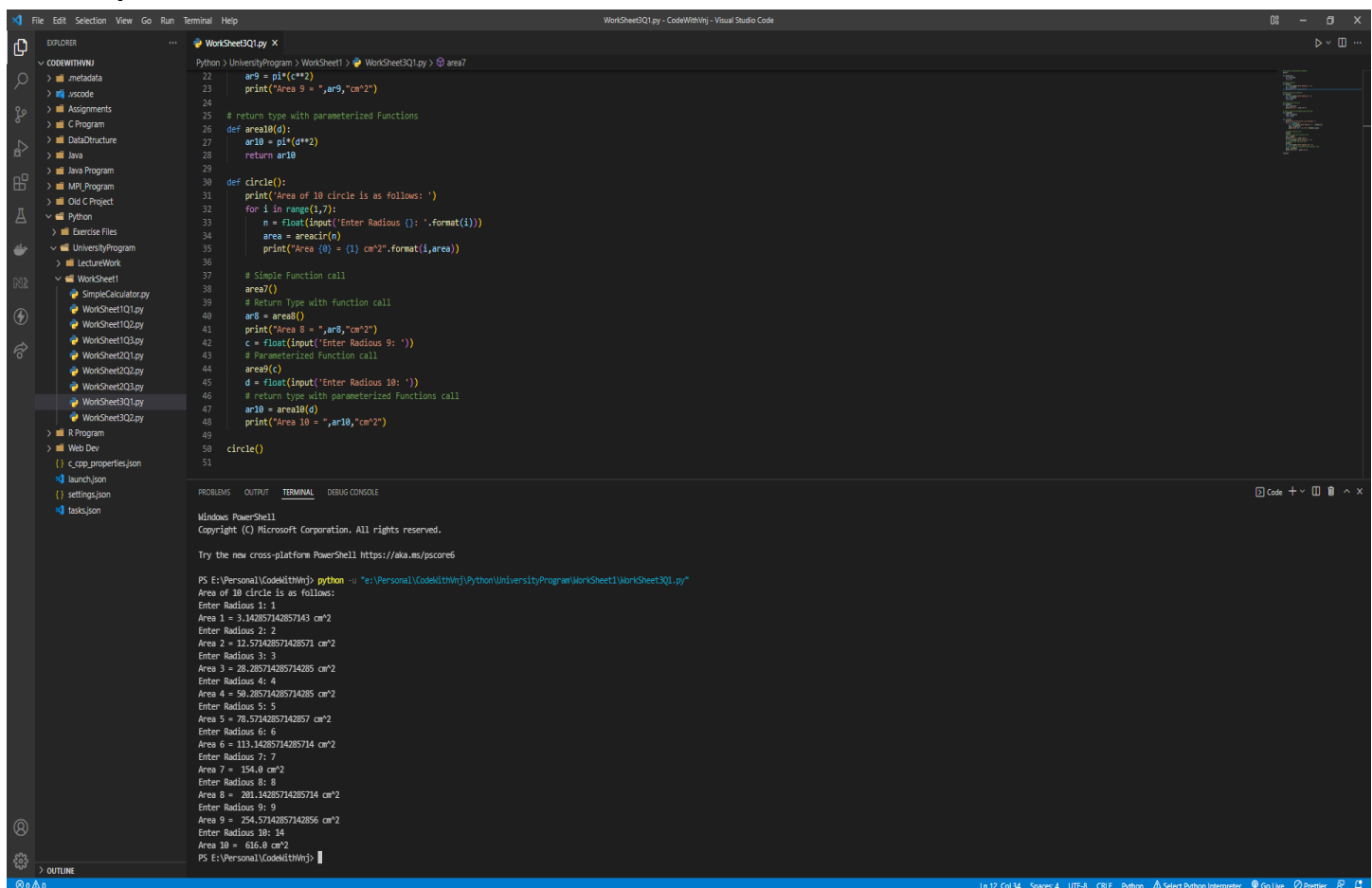
```
# Parameterized Function
def table(num):
    # For range 2 to 20 according to the question
    for i in range(2,20+1):
        print(num,' x ', i, ' = ',num*i)

num = int(input('Enter the Number: '))
# Parameterized Function call
table(num)
```

## 4. Result/Output/Writing Summary:

### I. Find area of Circle using different types of method.

#### Output:



```
Python > UniversityProgram > Worksheet > Worksheet3Q1.py > area7
22     ar9 = pi*(c**2)
23     print("Area 9 = ",ar9,"cm^2")
24
25 # return type with parameterized Functions
26 def areal0(d):
27     ar10 = pi*(d**2)
28     return ar10
29
30 def circle():
31     print("Area of 10 circle is as follows: ")
32     for i in range(1,7):
33         n = float(input("Enter Radius {}: ".format(i)))
34         area = areal0(n)
35         print("Area {} = {} cm^2".format(i,area))
36
37 # Simple Function call
38 area7()
39 # Return Type with function call
40 ar8 = areal0()
41 print("Area 8 = ",ar8,"cm^2")
42 c = float(input("Enter Radius 9: "))
43 # Parameterized Function call
44 areal(c)
45 d = float(input("Enter Radius 10: "))
46 # return type with parameterized Functions call
47 ar10 = areal0(d)
48 print("Area 10 = ",ar10,"cm^2")
49
50 circle()
51
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Microsoft PowerShell  
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Try the new cross-platform PowerShell <https://aka.ms/powershell>

PS E:\Personal\CodeWithWin> python -u "E:\Personal\CodeWithWin\Python\UniversityProgram\Worksheet\Worksheet3Q1.py"

Area of 10 circle is as follows:  
Enter Radius 1: 1  
Area 1 = 3.142857142857143 cm^2  
Enter Radius 2: 2  
Area 2 = 12.574388571428571 cm^2  
Enter Radius 3: 3  
Area 3 = 28.268774285714285 cm^2  
Enter Radius 4: 4  
Area 4 = 50.268774285714285 cm^2  
Enter Radius 5: 5  
Area 5 = 78.57438857142857 cm^2  
Enter Radius 6: 6  
Area 6 = 113.14285714285714 cm^2  
Enter Radius 7: 7  
Area 7 = 154.0 cm^2  
Enter Radius 8: 8  
Area 8 = 201.14285714285714 cm^2  
Enter Radius 9: 9  
Area 9 = 254.57142857142856 cm^2  
Enter Radius 10: 14  
Area 10 = 616.0 cm^2  
PS E:\Personal\CodeWithWin>

II. Calculate the Multiplication table of 2 to 20 using different types of method.

**Output:**

```

Python > UniversityProgram > Worksheet1 > Worksheet3Q2.py > ...
1 # Parameterized Function
2 def table(num):
3     # For range 2 to 20 according to the question
4     for i in range(2,20+1):
5         print(num,' x ', i, ' = ',num*i)
6
7 num = int(input('Enter the Number: '))
8 # Parameterized Function call
9 table(num)
    
```

```

PS E:\Personal\CodeWithVnJ> python -u "e:\Personal\CodeWithVnJ\Python\UniversityProgram\Worksheet1\Worksheet3Q2.py"
Enter the Number: 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120
12 x 11 = 132
12 x 12 = 144
12 x 13 = 156
12 x 14 = 168
12 x 15 = 180
12 x 16 = 192
12 x 17 = 204
12 x 18 = 216
12 x 19 = 228
12 x 20 = 240
PS E:\Personal\CodeWithVnJ>
    
```

**Learning outcomes (What I have learnt):**

1. I have learnt, how to find Armstrong Number.
2. Learnt to find the Palindrome number.
3. Learnt to find the Largest number.

**Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):**

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			
4			