ANSWERS ASSIGNMENT – 2

TOPICS – CONTROL STATEMENTS IN PYTHON

1) A Python Program to Calculate the Area Of Circle
Solution

```python
# pi value is constant 3.14
pi = 3.14
r = int(input("Enter the radius of circle.."))
# area of circle is area = pi*r*r
area = pi * r * r
print("Area of Circle is..{}".format(area))
```

2) A Python Program To Express A Digit In A Word
Solution:

```python
number = 2
# = assignment operator # It evaluate in boolean value
# True either False

# == comparison operator
if number == 2:
    print("Two")
else:
    print("Invalid..")
```

3) A Python Program To Display A Group Of Messages When The Condition Is True .
Solution:

```python
quote = """

Alright, but apart from the Sanitation, the Medicine, Education, Wine,
```

```
Public Order, Irrigation, Roads, the Fresh-Water System,
and Public Health, what have the Romans ever done for us?
"""

# if is True then execute if part, and if is false then
#execute else part // if always return boolean value

if True:
    print(quote)
else:
    print("not valid..")
```

4) A Python Program To Test Whether The Number Is Odd Or Even
Solution:

```
# # any num divided by 2 num and leaves a remainder 0, then it is even number
ans
# # not divided by 2 and leaves any remainder other than 0 then it is odd numb
er

number = 7
if number % 2 == 0:
    print("Number is Even")
else:
    # 7 % 2 == 1 condition is false then 7 is odd number
    print("Number is Odd")
```

5) A Python Program To Accept A Number From A Keyboard And Test Whether It Is Even Or Odd.
Solution:

```
number = int(input("Please Enter the number.."))

# give input from user for eg: 8 % 2 == 0 then it is even
if number % 2 == 0:
    print("Number is Even")
else:
    print("Number is Odd")
```

6) A Python Program To Test Whether A Given Number Is Between 1 And 10
Solution:

```python
number = int(input("Please Enter the number.."))

 #range function generates the int num
# between start int to stop int for ex 1 to 10

if number in range(1,10):
    print(" Correct guess, {} number  is between 1 to 10".format(number))
else:
    print("number is not between 1 to 10")
```

7) A Python Program To Know Whether The Given Number Is Zero, Positive And Negative.
Solution:

```python
number = float(input("Please Enter the number.."))
if number == 0:
    print("Number is Zero..")

    # number is greater than zero then it is positive number
    # other wise it is negative number
elif number > 0:
    print("Number is Positive...")
else:
    print("Number is Negative...")
```

8) A Program To Accept Numeric Digit From Keyword And Display In Words
Solution:

```python
# # Way 1:


# 1st position in list is zero
number = ["", "One", "Two", "Three", "Four", "Five",
          "Six", "Seven", "Eight", "Nine"]
```

```python
n = int(input("Enter a Number"))
print(number[n])


# # way 2:

num = int(input("Enter the Digit "))
if num == 0:
    print("Zero")
elif num == 1:
    print("One")
elif num == 2:
    print("Two")
elif num == 3:
    print("Three")
elif num == 4:
    print("Four")
elif num == 5:
    print("Five")
elif num == 6:
    print("Six")
elif num == 7:
    print("Seven")
elif num == 8:
    print("Eight")
elif num == 9:
    print("Nine")
else:
    print("Invalid Digit...")
```

9) A Python Program To Display Numbers From 1 To 10 Using A While Loop.
Solution:

```python
i = 1
while i <= 10:
    print(i)
    i += 1
```

10) A Program To Display Even Numbers Between 100 And 200
Solution:

```
# # Way 1:


number = int(input("Please enter the number..."))
if number in range(100,200):
    if number % 2 == 0:
        print("Number is Even")
    else:
        print("Number is Odd")
else:
    print("Out of range....")
#
# # 2 way:

number = int(input("Please enter the number..."))
if number >= 100 and number <= 200:
    if number % 2 == 0:
        print("Number is Even")
    else:
        print("Number is Odd")
else:
    print("Out of range....")
```

11) A Program To Display Even Numbers Between M And N (For A Given Range)
Solution:

```
m = int(input("starting number"))
n = int(input("Ending number"))
for i in range(m, n+1):
    if i % 2 == 0:
        print(i)
```

12) A Python Program To Display Characters Of Strings Using For Loop.
Solution:

```
name = input("Please enter the string")
seprators = ""
```

```
for i in name:
    if not i.isnumeric():
        seprators += i
print(seprators)
```

13) A Python Program To Display Each Character From A String Using Sequence Index.
Solution:

```
#user string
string = input("Please enter the some string...")
for char in string:
    # print all char in string
    print(char)
```

14) A Python Program To Display Odd Numbers From 1 To 10 Using The Range Object
Solution:

```
##Way 1:
i = 1
# number between 1 to 10
while i <= 10:
    # check number is odd or not
    if i % 2 != 0:
        # print number
        print(i)
    # increment the number
    i += 1

##Way 2:
# give the range for 1 to 10
for i in range(10):
    # check number is odd or not
    if i % 2 != 0:

        # print number
        print(i)
```

15) A Program To Display Numbers From 10 To 1 In Descending Order
Solution:

```python
##Way 1:
    # range(start, end and increment)
for i in range(10, 0, -1):
    print(i)




##Way 2:
# -1 means print back side
for i in range(10)[::-1]:
    print(i)
```

16) A Program To Display The Element For A List Using The For Loop
Solution:

```python
list = ['Sarika', 'Gauri', 'Pratiksha', 'Sayli', 'Shreya', 'Pooja']
# check the name is available in list or not in list
for name in list:
    print(name)
```

17) A Python Program To Display And Find The Sum Of The List Of Numbers Using The For Loop.
Solution:

```python
sum = 0
list = [11, 55, 34, 78, 12]
# start from list[0] to length of list
for num in range(0, len(list)):
    # calculate sum
    sum += list[num]


print("Sum of list Number is {}".format(sum))
```

18) A Python Program To Display And Find The Sum Of The List Of Numbers Using While Loop.
Solution:

```python
num = int(input("enter the list of number"))
i = 1
sum = 0

while i <= num:
    sum = sum + i
    i += 1
print("Sum of first", num, " Number is ", sum)
```

19) A Python Program That Displays Stars In Right Angled Triangular Form Using The Nested Loops.
Solution:

```python
# gives row from user
n = int(input("Enter the Number of Rows"))
# i represent the number of column
for i in range(1, n+1):
    # j represent the number of row
    for j in range(1, i+1):
        # print *
        print(" * ", end=" ")
    print()


#Enter the Number of Rows5
 *
 *    *
 *    *    *
 *    *    *    *
 *    *    *    *    *
```

20) A Python Program That Displays Stars In The Right Angled Triangular Form Using A Single Loop.
Solution:

```python
n = int(input("Enter the Number of Rows"))
#using single loop gives range start from 1
for i in range(1, n+1):
    # and end from end+1 // range gives the
    print(" * "*i)

#Enter the Number of Rows 5
 *
 *   *
 *   *   *
 *   *   *   *
 *   *   *   *   *
```

21) A Python Program To Display The Stars In An Equilateral Triangular Form Using A Single For Loop.
Solution:

```python
n = int(input("Enter the Number of Rows"))
# gives range for user
for i in range(1, n+1):
    print(' ' * n, end=" ")
    # printing space in row (for ex. 1st row print 4 space,
    #2nd row print 3 space...etc)

    # print the star (for ex. i start from 1
    # then it increment)
    print('* ' * i)
    # decrease the space 1 by 1
    n -= 1

Enter the Number of Rows 5
     *
    * *
   * * *


  * * * *
 * * * * *
```

22) A Python Program To Display Numbers From 1 To 100 In The Proper Format

Solution:

```python
##Way 1:

# range always represent value end-1
for i in range(1, 101):
    print(i)



##way 2 ;

li = list(range(1, 101))
i = 0
while i < 100:
    print(li[i], end=" ")
    i += 1
    if i % 10 == 0:
        print(" ")




# Way 3:
for i in range(1, 101):
    print(i, end=" ")
    if i % 10 == 0:
        print(" ")
```

23) A Python Program To Search Elements In The List Of Elements
Solution:

```python
list = ['rose', 'lily', 'lotus', 'jasmine', 'orchid', 'daisy']
flower = input("Please enter the flower name").lower()
if flower in list:


    print("{} Available". format(flower))
else:
    print("{} Flower is not Available". format(flower))
```

24) A Python Program To Display Numbers From 10 To 6 And Break The Loop When The Number About To Display Is 5.
Solution:

```python
for x in range(10, 0, -1):
    if x == 5:
        break

# end :string appended after the last value, default a
newline

    print(x, end=" ")
```

25) A Python Program To Display Numbers From 1 To 5 Using Continue Statement
Solution:

```python
for x in range(1, 10):
    if x > 5:
        continue
    print(x, end = " ")
```

26) A Program To Know That Pass Does Nothing
Solution:

```python
for numbers in range(1, 10):
    pass                   #generally used as a dummy statement in a code block

for numbers in range(11, 21):
    print(numbers, end=",")
```

27) A Python Program Only Negative Numbers From A List Of Numbers
Solution:

```python
listOfNumbers = [1, -2, -4, 6, -7]
for n in listOfNumbers:
```

```python
    if n  <  0:
      print(n, end = " ")
```

28) A Program To Assert That The User Enters A Number Greater Than Zero
Solution:

```python
Num = int(input('Enter a number: '))
assert num >= 0
print('You entered a no greater than 0 = ', num)

    #Python provides the assert statement to check if a given logical
     # expression is true or false. Program execution proceeds only if
    #the expression is true and raises the AssertionError when it is false.
    #The print statement will display if the entered number is
    # greater than or equal to 0. Negative numbers result in
     #aborting the program after showing the Assertion Error.
```

29) A Python Program To Handle The Assertion Error Exception That Is Given By Assert Statement
Solution:

```python
Num = int(input('Enter a number: '))
assert num >= 0, "Only positive numbers accepted."
print('You entered: ', num)

#The assert statement can optionally include an error message
#string, which gets displayed along with the Assertion Error.
```

30) A Function To Find The Sum Of Two Numbers
Solution:

```python
def sum(no1,no2):

    #without return statement
    no1+no2

sum(5,6)
```

31) A Python Program To Write A Function That Returns The Result Of The Sum Of Two Numbers.
Solution:

```python
def sum(no1,no2):
    #with return statement
    return no1+no2


sum = sum(5,6)
print("sum ={}".format(sum))
```

32) Write A Python Program To Display Prime Number Series
Solution:

```python
startPoint, endPoint = [int(x) for x in input("enter start point and end point
 by using space between them").split()]
for Number in range (startPoint, endPoint + 1):
    prime = True
    for i in range(2, Number):
        if(Number % i == 0):
            prime = False

    if prime and Number != 1:
        print(Number, end = ' ')
```

33) Write A Program To Generate The Fibonacci Series
Solution:

```python
# Fibonacci series is a series of numbers formed by the addition of

# the preceding two numbers in the series.


# Example of Fibonacci Series: 0, 1, 1, 2, 3, 5
# the first element of fibonacci series is 0 and 2nd element is 1 always
```

```python
a = int(input("Enter the terms"))
f = 0                                       #first element of series
s = 1                                       #second element of series
if a <= 0:
    print("The requested series is {}".format(f))
else:
    print(f, s, end = " ")
    for x in range(2, a):
        next = f + s
        print(next, end = " ")
        f = s
        s=next
```