PROGRAMMING FUNDAMENTAL

LAB SESSION 5

Q.1 Write down a Python program, using While loop that generates Odd numbers between 1 to 100.

```
i=1
while i<100:
    print(i, end=" ")
    i=i+2
```

Output:'

```
"C:\Users\admin\PycharmProjects\Programming Labs\venv\Scripts\python.exe" "C:/Users/admin/PycharmProjects/Prog
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71 73 75 7
Process finished with exit code 0
```

Q.2 Write down a Python Program using While loop to generate the following outputs.

```
1   i=1
2   while i<5:
3       j=1
4       while j<15:
5           print("*", end=" ")
6           j=j+1
7       print(" ")
8       i=i+1
9   def gap():
10      k=1
11      while k<18:
12          k=k+1
13          print(" ", end=" ")
14  gap()
15  l=1
16  while l<5:
17      m=1
18      while m<15:
19          print("*",end=" ")
20          m=m+1
21      print(" ")
22      gap()
```

Output

```
"C:\Users\admin\PycharmProjects\Programming Labs\venv\Scripts\p
* * * * * * * * * * * * * *
* * * * * * * * * * * * * *
* * * * * * * * * * * * * *
* * * * * * * * * * * * * *
                              * * * * * * * * * * * * * *
                              * * * * * * * * * * * * * *
                              * * * * * * * * * * * * * *
                              * * * * * * * * * * * * * *

Process finished with exit code 0
```

```
1    i=1
2    while i<9:
3        j=0
4        while j<i:
5            j=j+1
6            print("*", end=" ")
7        print(" ")
8        i=i+1
```

Output:

```
"C:\Users\admin\PycharmProjects\Prog
*
* *
* * *
* * * *
* * * * *
* * * * * *
* * * * * * *
* * * * * * * *

Process finished with exit code 0
```

```
1    i=1
2    while i<9:
3        j=8
4        while j>i:
5            j=j-1
6            print("*",end=" ")
7        print(" ")
8        i=i+1
c)
```

```
"C:\Users\admin\PycharmProjects\Pr
* * * * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*

Process finished with exit code 0
```

Q.3   Write down a python program having one function for calculating factorial of a no. And call that function within a While loop to generate factorial of numbers from 0 to 10,

```
1    def fact1(n):
2        fact=1
3        for i in range(1,n+1):
4            fact=fact*i
5        return fact
6    j=0
7    while j<11:
8        print(j, "!\t", "=\t",fact1(j))
9        j=j+1
10
```

Output:

```
"C:\Users\admin\PycharmProjects\Pro
0 !  =   1
1 !  =   1
2 !  =   2
3 !  =   6
4 !  =   24
5 !  =   120
6 !  =   720
7 !  =   5040
8 !  =   40320
9 !  =   362880
10 !     =   3628800

Process finished with exit code 0
```