

## Assignment - 21 Recursion

1. Write a recursive python function to print first N natural numbers.

```
def natural_num(n):  
    if n>0:  
        natural_num(n-1)  
        print(n)  
  
n=int(input("enter the number "))  
natural_num(n)
```

2. Write a recursive python function to print first N natural numbers in reverse order.

```
def natural_num(n):  
    if n>0:  
        print(n)  
        natural_num(n-1)  
  
n=int(input("enter the number "))  
natural_num(n)
```

3. Write a recursive python function to print first N odd natural numbers.

```
def natural_oddnum(n):  
    if n>0:  
        natural_oddnum(n-1)  
        print((2*n)-1)  
  
n=int(input("enter the number "))  
natural_oddnum(n)
```

4. Write a recursive python function to print first N odd natural numbers in reverse order.

```
def natural_oddnum(n):  
    if n>0:  
        print((2*n)-1)  
        natural_oddnum(n-1)  
  
n=int(input("enter the number "))  
natural_oddnum(n)
```

5. Write a recursive python function to print first N even natural numbers.

```
def natural_evennum(n):  
    if n>0:
```

```
natural_evennum(n-1)
print((2*n))
```

```
n=int(input("enter the number "))
natural_evennum(n)
```

6. Write a recursive python function to print first N even natural numbers in reverse order.

```
def natural_evennum(n):
    if n>0:
        print((2*n))
        natural_evennum(n-1)
```

```
n=int(input("enter the number "))
natural_evennum(n)
```

7. Write a recursive python function to print squares of first N natural numbers.

```
def square_num(n):
    if n>0:
        square_num(n-1)
        print((n**2))
```

```
n=int(input("enter the number "))
square_num(n)
```

8. Write a recursive python function to print cubes of first N natural numbers.

```
def square_num(n):
    if n>0:
        square_num(n-1)
        print((n**3))
```

```
n=int(input("enter the number "))
square_num(n)
```

9. Write a recursive python function to print first N multiples of a given number.

```
def n_mul(n1,n2):
    i=1
    while i<=n2:
        print(i*n1,end=" ")
        i+=1
    print()
def rec_mul(n1,n2):
    n_mul(n1,n2)
```

```
n1=int(input("which number multiple you want \n"))
```

```
n2=int(input("how many times you want multiple of {} \n".format(n1)))
rec_mul(n1,n2)
```

10. Write a recursive python function to print a number in reverse order.

```
def revdigit(n):
    a=0
    while n!=0:
        b=n%10
        a=a*10+b
        n=n//10
    print(a)
def reverse(d):
    revdigit(d)
n=int(input("enter the number \n"))
reverse(n)
```