Programs on Recursion

In [18]:
```python
# 1) write a recursive f() to print first n natural no. in reverse order
def shownumbers(n):
    if n>0:
        print(n, end=" ")
        shownumbers(n-1)


no = int(input("Enter n to print first n natural no. in reverse order: "))
shownumbers(no)
```

```
Enter n to print first n natural no. in reverse order: 16
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
```

In [17]:
```python
# 2) write a recursive f() to print first n odd natural no.
def oddnum(n):
    if n>0:
        oddnum(n-1)
        print((2*n)-1, end=" ")


no = int(input("Enter n to print n odd no.: "))
oddnum(no)
```

```
Enter n to print n odd no.: 20
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39
```

In [16]:
```python
# 3) write a recursive f() to print first n odd natural no. in reverse order
def revoddnum(n):
    if n>0:
        print((2*n)-1, end=" ")
        revoddnum(n-1)

no = int(input("Enter n to print n odd no. in reverse order: "))
revoddnum(no)
```

```
Enter n to print n odd no. in reverse order: 20
39 37 35 33 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
```

In [15]:
```python
# 4) write a recursive f() to print squres of first n natural no.
def squares(n):
    if n>0:
        squares(n-1)
        print(n*n, end=" ")
nn = int(input("Enter n to print square of n no.: "))
squares(nn)
```

```
Enter n to print square of n no.: 16
1 4 9 16 25 36 49 64 81 100 121 144 169 196 225 256
```

```
In [13]: # 5) write a recursive f() to print reverse of given no.
         def revnum(n):
             if len(n)>0:
                 print(n[-1], end="")
                 revnum(n[:-1])
         num = input("Enter a no. to get its reverse: ")
         revnum(num)
```

Enter a no. to get its reverse: 1245632
2365421

In [ ]: