

## Programs Based loops concept.

### for loop

```
1. for i in range(1, 6, 1):
    for j in range(1, i+1, 1):
        print("*", end=" ")
    print()
```

output:-

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

```
2. for i in range(1, 6, 1):
    for j in range(1, i+1, 1):
        print(j, end=" ")
    print()
```

output:-

```
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
```

```
3. val = 1
for i in range(1, 6, 1):
    for j in range(1, i+1, 1):
        print(val, end="\t")
        val = val + 1
    print()
```

dt - 04/12/20

Day - 09

### while loop

```
i = 1
while i <= 5:
    j = 1
    while j <= i:
        print("*", end=" ")
        j += 1
    print()
    i += 1
```

```
i = 1
while i <= 5:
    j = 1
    while j <= i:
        print(j, end=" ")
        j += 1
    print()
    i += 1
```

```
num = 1
i = 1
while i <= 5:
    j = 1
    while j <= i:
        print(num, end="\t")
        num += 1
    print()
    i += 1
```

Output:-

```

1
2 3
4 5 6
7 8 9 10
11 12 13 14 15

```

```

④ for i in range(1,6,1):
    for j in range(1,6,1):
        if (i==1 & i==5 & j==1 & j==5):
            print("*", end=" ")
        else:
            print(" ", end=" ")
    print()

```

Output:-

```

* * * * *
*           *
*           *
*           *
*           *
* * * * *

```

```

⑤ for i in range(5,0,-1):
    for j in range(i,0,-1):
        print(j, end=" ")
    print()

```

Output:-

```

5 4 3 2 1
4 3 2 1
3 2 1
2 1
1

```

```

i = 1
while i <= 5:
    j = 1
    while j <= 5:
        if i==1 & i==5 & j==1 & j==5:
            print("*", end=" ")
        else:
            print(" ", end=" ")
        j += 1
    print()
    i += 1

```

```

i = 5
while i >= 1:
    j = i
    while j >= 1:
        print(j, end=" ")
        j -= 1
    print()
    i -= 1

```



⑥ for i in range(1,6,1):  
 for j in range(5, i-1, -1):  
 print(i, end=" ")  
 print()

Output:-

5 4 3 2 1

5 4 3 2

5 4 3

5 4

5

⑦ for i in range(1,5,1):  
 for j in range(5, i-1, -1):  
 print(i, end=" ")  
 print()

for i in range(1,6,1):  
 for j in range(5, 5-i, -1):  
 print(i, end=" ")  
 print()

Output:-

5 4 3 2 1

5 4 3 2

5 4 3

5 4

5

5 4

5 4 3

5 4 3 2

5 4 3 2 1

i = 5  
 while i >= 1:  
 j = 5  
 while j >= 6 - i:  
 print(i, end=" ")  
 j -= 1  
 print()  
 i -= 1

while i >= 1:  
 j = 5  
 while j >= 6 - i:  
 print(i, end=" ")

j -= 1  
 print()  
 i -= 1

i = 2  
 while i <= 5:  
 j = 5  
 while j >= 6 - i:  
 print(i, end=" ")

j -= 1  
 print()  
 i += 1