⇒ For loop

syntex

```
for( initialisation ; condition ; increment/decrement ) {

}
```

- initialisation → from where to start
- condition → when to stop
- increment/decrement → how to proceed

Print x to n

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int n = scn.nextInt();

    for (int i = x; i <= n; i++) {
        System.out.println(i);
    }
}
```

Print table of 4

```
4x1=4
4x2=8
4x3=12
4x4=16
4x5=20
4x6=24
4x7=28
4x8=32
4x9=36
4x10=40
```

```
for ( int i = 1 ;  i <= 10 ; i++ ) {
    System.out.println( "4" + "x" + i + "=" + (4 * i) );
}
```

Concatenation

```
public static void main(String[] args) {

    for (int i = 1; i <= 10; i++) {
        System.out.println( "4x" + i + "=" + (4 * i) );
    }

}
```

GKSTR11 Multiple Of 7

n = 98

7 * i ⟶ 0, 7, 14, ------

```
for ( int i=0 ; 7*i <= 98 ; i++) {
    Syso( 7*i );
}
```

i=0, 0
i=1, 7
i=2, 14
i=3, 21
i=4, 28
i=5, 35
i=6, 42
i=7, 49
i=8, 56
i=9, 63
i=10, 70

i=11, 77
i=12, 84
i=13, 91
i=14, 98
i=15, ~~105~~
i=16

GKSTR11 Multiple Of 7

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = 0; 7 * i <= n; i++) {
        System.out.print( (7 * i) + " " );
    }
}
```

Print 2,9,16...

```
public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();

        for (int i = 2; i <= n; i += 7) {
            System.out.println(i);
        }
    }
}
```

Print 3 7 11 15...

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = 3; i < n; i += 4) {
        System.out.println(i);
    }
}
```

Print n to 1

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = n; i > 0; i--) {
        System.out.println(i);
    }
}
```

Print n to x

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int x = scn.nextInt();

    for ( int i = n; i >= x; i-- ) {
        System.out.println(i);
    }
}
```

Reverse 5 table

```
public static void main(String[] args) {
    for (int i = 10; i >= 1; i--) {
        System.out.println( "5x" + i + "=" + (5 * i) );
    }
}
```

print odd from n to 1

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = n; i >= 1; i--) {
        if ( i % 2 != 0 ) {
            System.out.println(i);
        }
    }
}
```

Print n, n-3, n-6 .....

Expression :- n , n-3 , n-6, n-9, ...

n = 14

14
11
8
5
2

for (int i=n ; i>0 ; i-=3){
}

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();

    for (int i = n; i > 0; i -= 3) {
        System.out.println(i);
    }
}
```

Print n, n-k, n-2k, n-3k .....

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int k = scn.nextInt();

    for (int i = n; i >= 0; i -= k) {
        System.out.println(i);
    }
}
```

print a to z

```
public static void main(String[] args) {

    for (char i = 'a'; i <= 'z'; i++) {
        System.out.println(i);
    }

}
```

TLE :- Time Limit Exceed

MLE :- Memory Limit Exceed