Printing 5 to N(While Loop)

WAP to print numbers from **5 to n**(using while loop) where **n** is taken as input from the user using while loop.

Sample Input 0

```
10
```

Sample Output (

```
5
6
7
8
9
10
```

n=10

5 ✓
6
7
8
9
10

n=7

5 ✓
6
7

```java
import java.io.*;
import java.util.*;

public class Solution {

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

        int i = 5;
        while(i <= n){
            System.out.println(i);
            i++;
        }
    }
}
```

eg. n=7

5
6
7

i=5
6
7
8

5 ≤ 7
6 ≤ 7
7 ≤ 7
8 ≤ 7

Print 4,13,22,31.....n

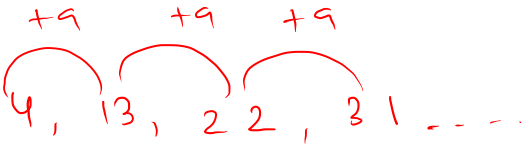
A programming task was assigned to a beginner named Alex. The task was to print the sequence `4, 13, 22, 31.... until n` using a while loop. Alex took the value of **n** as input from the user and successfully completed the task.

Sample Input 0

```
55
```

Sample Output 0

```
4
13
22
31
40
49
```




```
int i =4
while (i<=n)
{
    System.out(i)
    i= i+9;
}
```

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

You will be given three integer inputs **N**,**K** and **L** and you to print the series `N, N-K, N-2K, N-3K....` till last where the value printed in the end should be just greater than or equal to the given input **L**.

Sample Input 0

```
50
5
4
```

Sample Output 0

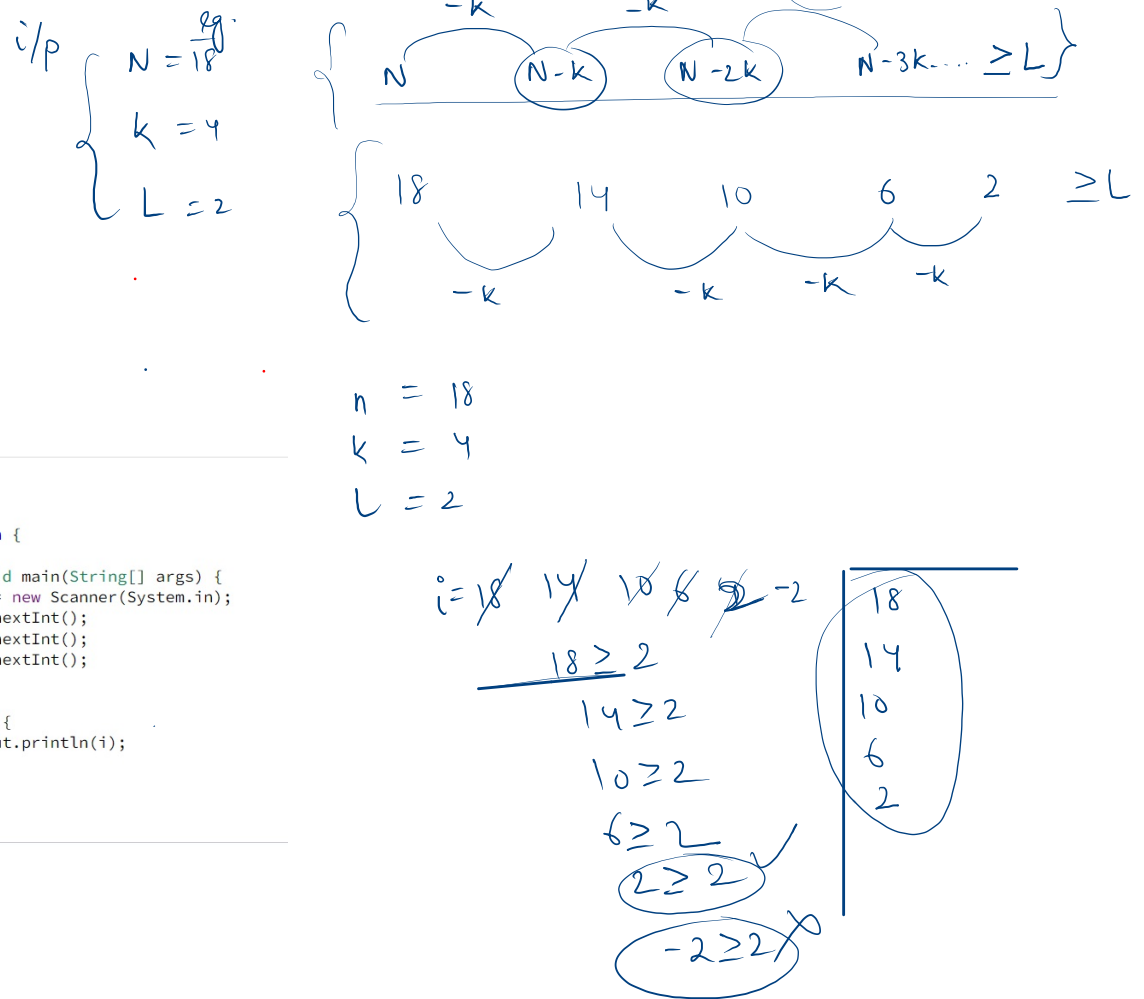
```
50
45
40
35
30
25
20
15
10
5
```

```java
import java.io.*;
import java.util.*;

public class Solution {

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

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



Running product while loop.

Imagine you are a math teacher and one of your students, Maria, is struggling with understanding how to find the **running product** of a series of integers. You decide to give her a problem to work on as practice.

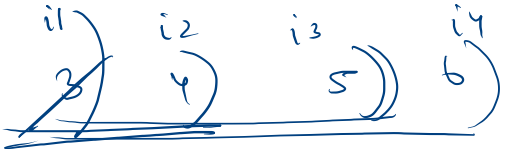
The problem is as follows: Maria will be given a series of n integers as input, she has to print the product after she take input of an integer each time.

For example, if the series of integers is `3, 4, 5, 6` the output should be `3, 12, 60, 360` Maria is a little bit confused at first, but with your guidance and some careful practice, she is eventually able to understand and solve the problem successfully.

Sample Input 0

```
4
3 4 5 6
```

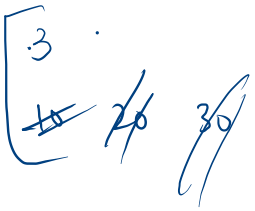
n = 4.



3 12 60 360.

Sample Output 0

```
3 12 60 360
```



$n = 3$

ans = 1 10 200 6000

$i = 1$ $\quad 1 \le 3$ ✓ $\quad x = 10$

$i = 2$ $\quad 2 \le 3$ ✓ $\quad x = 20$

$i = 3$ $\quad 3 \le 3$ ✓ $\quad x = 30$

$i = 4$ $\quad 4 \le 3$ ✗

```java
import java.io.*;
import java.util.*;

public class Solution {

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

        int ans = 1;

        int i = 1;
        while(i <= n){
            int x = scn.nextInt();
            ans = ans * x;
            System.out.print(ans + " ");
            i++;
        }
    }
}
```

10 200 6000

Steps till n greater than 0

Meet Jake, a data analyst who is working on a project to analyze the performance of a new machine learning model. One of the tasks he has been assigned is to write a program that simulates the operation of the model by taking an integer input **n** and performing a series of steps until the value of **n** becomes **0**.

```
If n is even, the program should subtract 1 from n.
If n is odd, the program should subtract 3 from n.
```

Jake needs to keep track of the total number of steps that the program performs and print this value at the end. Can you help Jake come up with a solution for this problem?

Sample Input 0

```
2
20
37
```

Sample Output 0

```
10
19
```

t = 2

n = 20

↓

calc. step

i/p { n

n ≥ 0

n

even

odd

-1

-3

n = 37

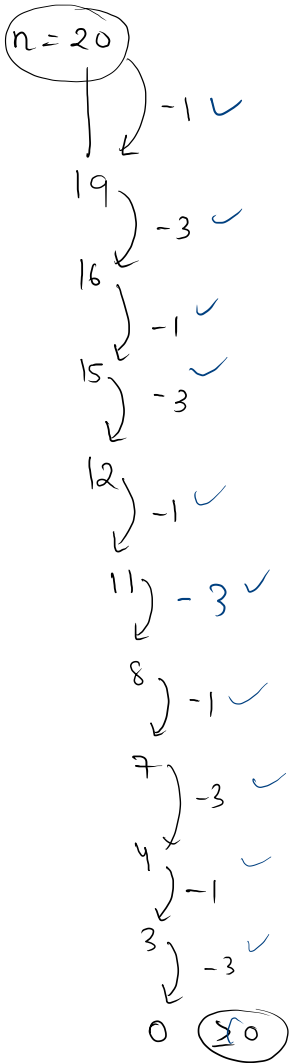
↓

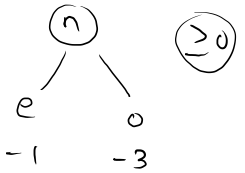
cal. step

t = 2 ⟶ total number of i/p

20

37





```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int t = scn.nextInt();          //total inputs
        int i = 1;
        while(i <= t){
            int n = scn.nextInt();
            int steps = 0;
            while(n > 0){
                if(n % 2 == 0){
                    n -= 1;
                }else{
                    n -= 3;
                }
                steps++;
            }
            System.out.println(steps);
            i++;
        }
    }
}
```

nth power of 10 using while loop

A programming task was assigned to a beginner named Emily. The task was to take an integer input **n** and print the **nth power of 10** integers as an output. Emily successfully completed the task by taking the input value of **n** and using it to access the desired element of the sequence.

Sample Input 0

```
1
```

Sample Output 0

```
10
```

Sample Input 1

```
0
```

Sample Output 1

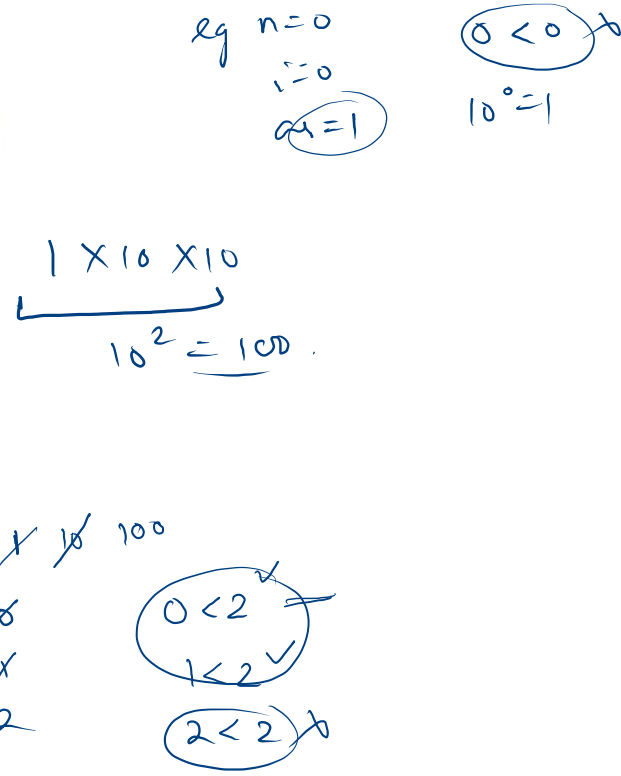
```
1
```

```java
import java.io.*;
import java.util.*;

public class Solution {

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

        int ans = 1;
        int i = 0;
        while(i < n){
            ans *= 10;
            i++;
        }
        System.out.println(ans);
    }
}
```



Print nth Tribonacci number

a b c d

0 1 1 2 4 7 13 24 ....

fixed

for.

while.

n = 3.

```java
import java.io.*;
import java.util.*;

public class Solution {

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

        int a = 0;
        int b = 1;
        int c = 1;

        for(int i = 0; i < n; i++){
            int d = a + b + c;
            a = b;
            b = c;
            c = d;
        }
        System.out.println(a);
    }
}
```

a = 0 1 1 2

b = 1 1 2 4

c = 1 2 4 7

i = 0 1 2 3

0 < 3 d = 2

1 < 3 d = 4

2 < 3 d = 7

3 < 3

0 1 1 2

0 1 2 3

0 1 1 2 4 7 13 24 ....

0 1 2 3 4 5 6 7

n = 5

o/p → 7

a b c d

a b c

a = 0 1

b = 1 2

c = 2 4

a = b

b = c

c = d

d = 4

```java
import java.io.*;
import java.util.*;

public class Solution {

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

        int a = 0;
        int b = 1;
        int c = 1;

        // for(int i = 0; i < n; i++){
        //     int d = a + b + c;
        //     a = b;
        //     b = c;
        //     c = d;
        // }
        int i = 0;
        while( i < n){
            int d = a + b + c;
            a = b;
            b = c;
            c = d;
            i++;
        }


        System.out.println(a);
    }
}
```