Print n/3

Imagine Alice is a computer science student and she is trying to understand a concept related to loops. Her friend Bob, who is a computer science professor, gives her the following problem:

Write a program that takes an integer input from the user. The program should keep **dividing** the integer by **3** and printing the resultant value on each iteration until the value is greater than **0**.

Can you write a solution for this problem?"

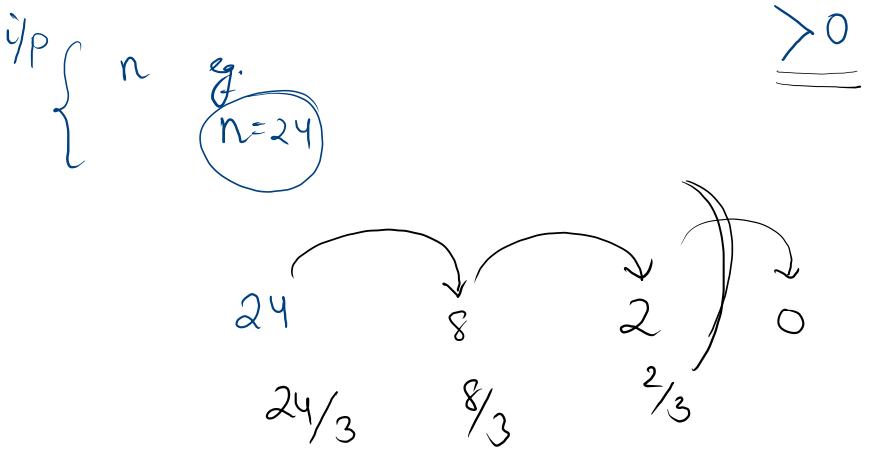
Note: Start printing from **n**, keep on updating **n** by dividing **n** by **3** each time, and print the the updated value of **n** each time.

Sample Input 0

```
24
```

Sample Output 0

```
24 8 2
```



eg. 17

17

```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();

        for(int i = n; i > 0 ; i = i / 3){
            System.out.print(i + " ");
        }
    }
}
```

Multiples of 3, 5 and Both 3 and 5

Meet Maria, a math teacher who is preparing a lesson plan for her students. One of the activities she wants to include is a challenge for her students to find all the multiples of **3**, **5**, and both **3** and **5**, within a given range. She has decided to use a program to generate the list of multiples for her students. Can you help Maria write a program that takes in an integer **n** and returns a list of all the multiples of **3**, **5**, and both **3** and **5**, starting from **1** and going up to **n**?

Sample Input 0

```
15
```

i/p n

3 / 5 / or both (3/5)

Sample Output 0

```
3 5 6 9 10 12 15
```

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

3 5 6 9 10 12 15.

i % 3 == 0 || i % 5 == 0

F T eg 10

```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();
        for(int i = 1; i <= n; i++){
            if(i % 3 == 0 || i % 5 == 0){
                System.out.print(i + " ");
            }
        }

    }
}
```

```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();
        // for(int i = 1; i <= n; i++){
        //     if(i % 3 == 0 || i % 5 == 0){
        //         System.out.print(i + " ");
        //     }
        // }


        for(int i = 1; i <= n; i++){
            if(i % 3 == 0  ){
                System.out.print(i + " ");
            }else if(i % 5 == 0){
                System.out.print(i + " ");
            }
        }

    }
}
```

Running Sum for loop

Imagine you are a math teacher and one of your students, Maria, is struggling with understanding how to find the **running sum** 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 sum 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, 7, 12, 18`

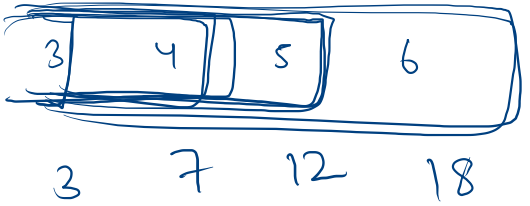
Maria is a little bit confused at first, but with your guidance and some careful practice, she is eventually able to understand and solve the problem successfully.

NOTE: Initially the sum is zero.

sum = 0

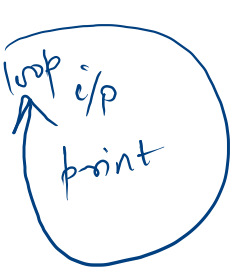
Sample Input 0

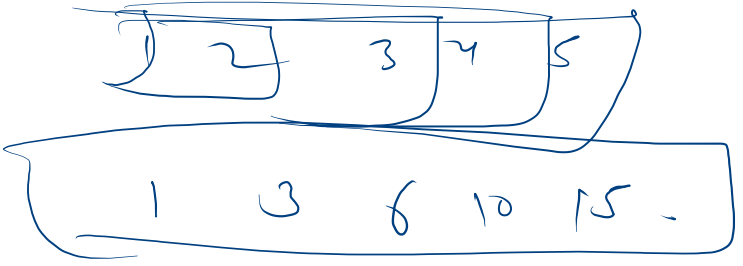
```
5
1 2 3 4 5
```



Sample Output 0

```
1 3 6 10 15
```





i/p

5

1 2 3 4 5

n = 5

sum = 0 1 3 6 10 15

i = 1 ≤ 5 ✓ x = 1

2 ≤ 5 ✓ x = 2

3 ≤ 5 ✓ x = 3

4 ≤ 5 ✓ x = 4

5 ≤ 5 ✓ x = 5

6 ≤ 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 sum = 0;

        for(int i = 1; i <= n; i++){
            int x = scn.nextInt();
            sum = sum + x;
            System.out.print(sum + " ");
        }


    }
}
```

o/p

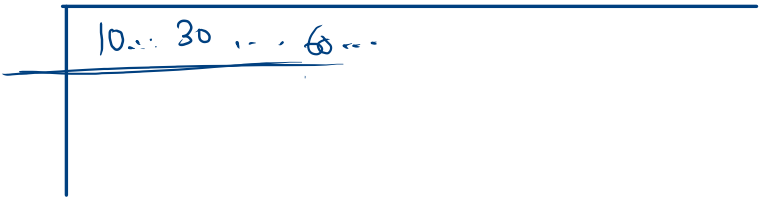
1 .. 3 ... 6 ... 10 ... 15 ...

```java
public class Solution {

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

        int sum = 0;

        for(int i = 1; i <= n; i++){
            int x = scn.nextInt();
            sum = sum + x;
            System.out.print(sum + " ");
        }


    }
}
```

n = 3.

sum = 0 10 30 60

i = 1	1 ≤ 3	x = 10
2	2 ≤ 3	x = 20
3	3 ≤ 3 ✓	x = 30
4	4 ≤ 3 ✗	



Nth Fibonacci Number 7

Nth term of Fibonacci series F(n), where F(n) is a function, is calculated using the following formula -

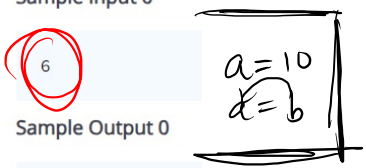
```
F(n) = F(n-1) + F(n-2),
Where, F(1) = F(2) = 1
```

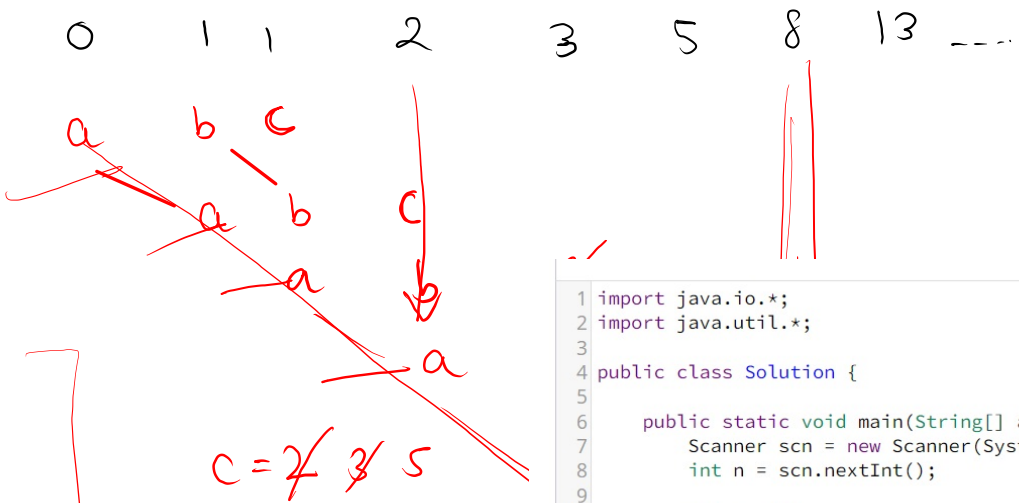
Sample Input 0

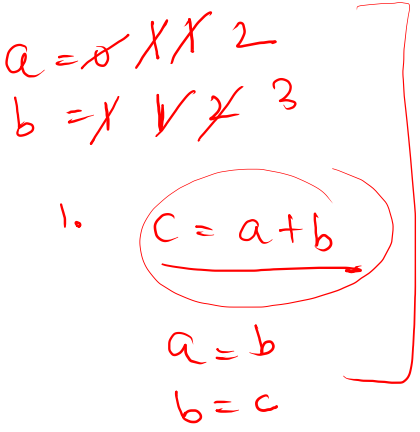
```
6
```

Sample Output 0

```
8
```








```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;

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

```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;

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

n = 5

a = 0 1 1 2 3 5

b = 1 1 2 3 5 8

i =	0 < 5	c =
0	0 < 5	c = 1
1	1 < 5	c = 2
2	2 < 5	c = 3
3	3 < 5	c = 5
4	4 < 5	c = 8
5	5 < 5	

n = 5 → 5 'a'

0 1 1 2 3 5 8 13

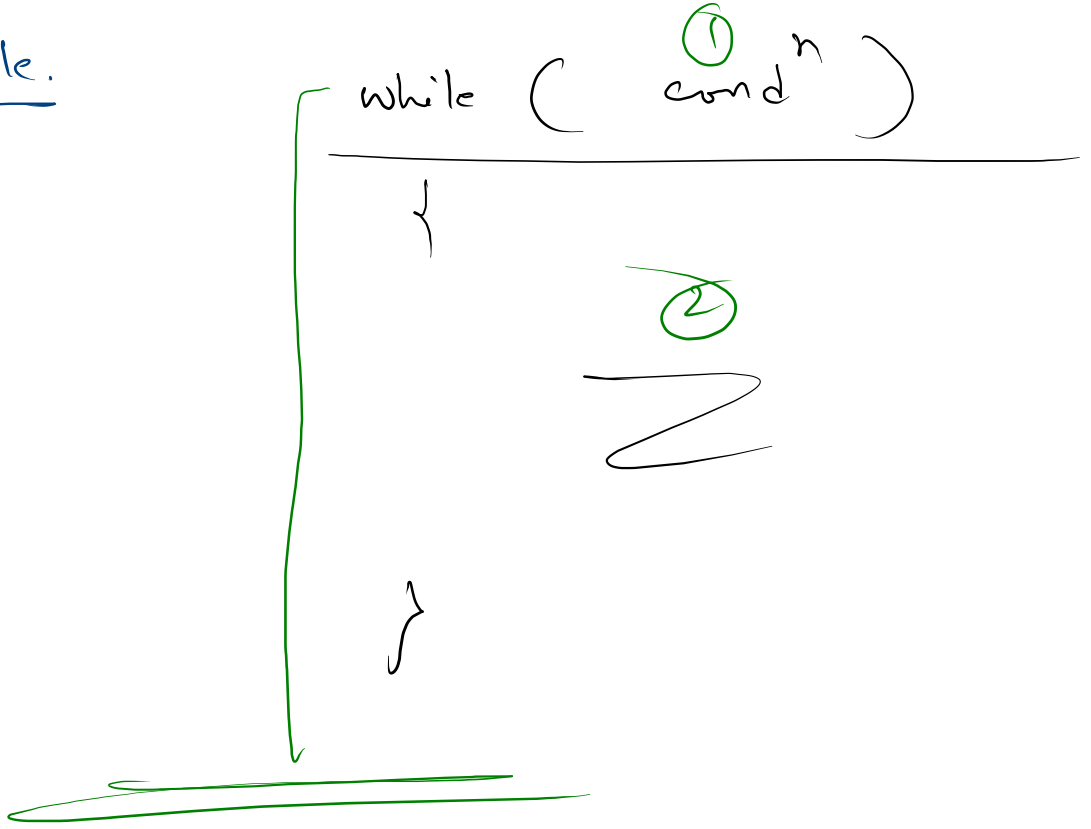
25 → ?

```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;

        for(int i = 0; i < n; i++){
            System.out.print(a + " ");
            int c = a + b;
            a = b;
            b = c;

        }

    }
}
```

n = 4

→ 0 1 1 2

While.



```
8  ************************************************
9  public class Main
10 {
11     public static void main(String[] args) {
12         int i = 0;
13 
14         while(i < 3){
15             System.out.println(i);
16             i++;
17         }
18     }
19 }
20 
```

While [0 to N]

```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 = 0;
        while(i <= n){
            System.out.println(i);
            i++;
        }
    }
}
```