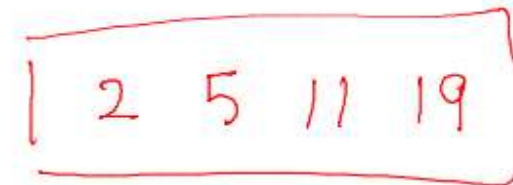
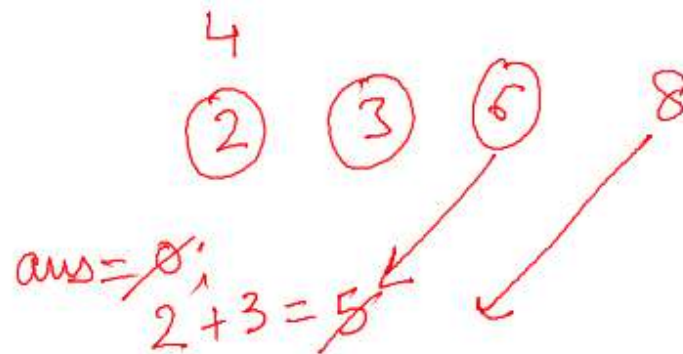
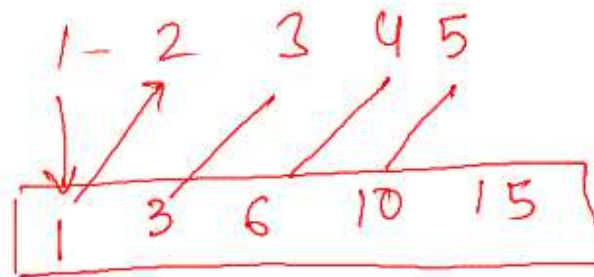


$n = 5$



```
public class Solution {
```

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

```
        int i = 1;  
        int ans = 0;  
        while(i <= n){  
            int val = scn.nextInt();  
            ans = ans + val;  
            System.out.print(ans + " ");  
            i++;  
        }
```

```
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should
```

```
    }  
}
```

2 4 8 6 9

1 → 5

n = 5, i = 1 + 2 3 4 5 6

ans = 0 2 6 14 20 29

val 2  
4 8  
6 9

2 6 14 20 29

Q

Fibonacci

↳ series

$$f(n) = \boxed{f(n-1)} + \boxed{f(n-2)}$$

1 2 3 4 5 n=6  
1 1 2 3 5 8

$$\begin{aligned} f(6) &= f(6-1) + f(6-2) \\ &= \boxed{f(5)} + \boxed{f(4)} \\ &= 5 + 3 = 8 \end{aligned}$$

n = 5 = ?

```
int i = 1;
int a = 0;
int b = 1;
```

```
while(i <= n) {
    int c = a + b;
    a = b;
    b = c;
    i++;
}
```

syso(a);

n = 5  
a  
0

~~a~~  
1

~~a~~  
1

~~b~~  
2

~~a~~  
3

~~b~~  
5

~~b~~  
8

i = 1 2 3 4 5 6

5

```

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

    int i=1;
    int a=0;
    int b=1;

    while(i<=n){
        int c = a+b;
        a=b;
        b=c;
        i++;
    }

    System.out.println(a);
}

```

Handwritten notes for the first code block:

- $n = 6$
- $i = 1, 2, 3, 4, 5, 6, 7$
- Sequence of values for  $a$  and  $b$ :
 

$i$	$a$	$b$
1	0	1
2	1	1
3	1	2
4	2	3
5	3	5
6	5	8
7	8	13
- Final output is  $8$ .

Handwritten diagram showing the state of variables  $a$  and  $b$  during the loop:

```

    a = b;
    b = c;

```

With arrows indicating the flow of values and the text "false" next to the assignment  $b = c$ .

0 1 1 2 3 5 8 13

```

public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int i = 1;
    int a = 0;
    int b = 1;

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

    /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class st
}

```

Handwritten notes for the second code block:

- $n = 6$
- $i = 1, 2, 3, 4, 5, 6, 7$
- Sequence of values for  $a$  and  $b$ :
 

$i$	$a$	$b$
1	0	1
2	1	1
3	1	2
4	2	3
5	3	5
6	5	8
7	8	13
- Final output is  $8$ .

```

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++;
        }

```

```

        /* Enter your code here. Read input from STDIN. Print output to STDOUT

```

```

    }

```

```

public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int sub = scn.nextInt();
    int end = scn.nextInt();
    //int i = n;
    while(n >= end){
        System.out.println(n);
        n -= sub;
    }
}

```

/\* Enter your code here. Read input from STDIN. Print output to STDOUT \*/

10  
8  
6  
4

```

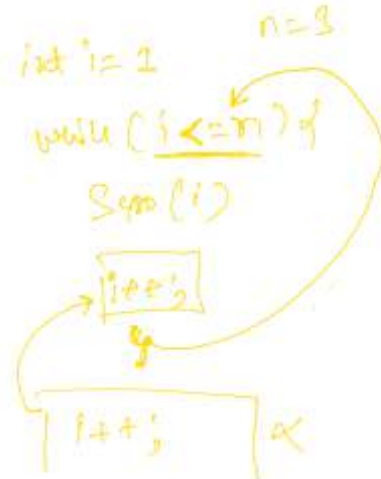
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int i = 1;
    int ans = 1;
    while(i <= n){
        int val = scn.nextInt();
        ans = ans * val;
        System.out.print(ans + " ");
        i++;
    }
}

```

/\* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Main \*/

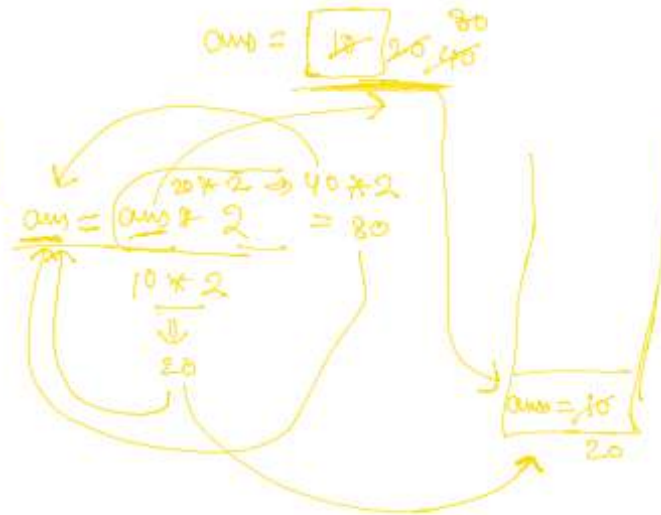
2 4 6  
↑ ↑ ↑  
val val val

2  
8  
48



initial  
ten  
incre

1  
1



$n = 20$   
↓  
0

if  $n = \text{odd} = -3$   
if  $n = \text{even} = -1$

# of op<sup>n</sup> to make  
 $n = 0$

20  
18  
16  
15  
12  
11  
8  
7  
4  
3  
0

10

11  
↓  
8  
↓  
7  
↓  
4  
↓  
3  
↓  
0

(5)

# of test case = 3

[ 10  
19  
37

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

```
    Scanner scn = new Scanner(System.in);  
    int test = scn.nextInt();
```

```
    int i = 1;  
    while(i <= test){  
        int n = scn.nextInt();  
        int count = 0;  
        while(n > 0){  
            if(n % 2 == 0){  
                n = n - 1;  
            } else {  
                n = n - 3;  
            }  
            count++;  
        }  
        System.out.println(count);  
        i++;  
    }
```

19 → 8 7 4 3 0  
count = 0 + 2 + 3 + 4

/\* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class

}