Print last index of x in array

arr =

1	5	3	5	2	3
0	1	2	3	4	5

x = 5

ans = 3

ans = ~~5~~ 3

(-1)

```
i=5,  3==5  x
i=4,  2==5  x
i=3,  5==5  ✓
i=2  x
i=1  x
i=0  x
```
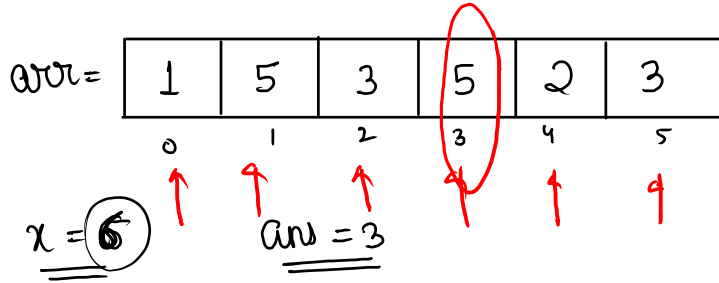
```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }
    int x = scn.nextInt();
    solve(arr, n, x);
}
```

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }
    int x = scn.nextInt();
    solve(arr, n, x);
}
```
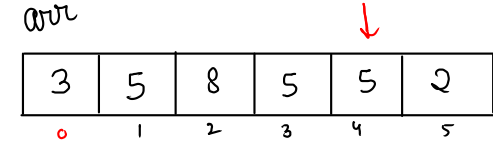
main logic

```java
public static void solve(int[] arr, int n, int x) {
    int ans = -1;
    for (int i = 0; i < n; i++) {
        if ( arr[i] == x ) {
            ans = i;
        }
    }
    System.out.println(ans);
}
```

```java
public static void solve(int[] arr, int n, int x) {
    for (int i = n - 1; i >= 0; i--) {
        if ( arr[i] == x ) {
            System.out.println(i);
            return;
        }
    }
    System.out.println(-1);
}
```

Sample Input 0

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

Sample Output 0

```
4
```

arr

3	5	8	5	5	2
0	1	2	3	4	5

x = 5

int ans = -1

```
i=0,   3==5  x     ans= -1
i=1,   5==5  ✓     ans = 1
i=2,   8==5  x     ans = 1
i=3,   5==5  ✓     ans = 3
i=4,   5==5  ✓     ans = 4
i=5,   2==5  x     ans = 4
```

Ques) Return Index of first non matching element

arr1

1	5	3	2	7
0	1	2	③	4

arr2

1	5	3	7	2
0	1	2	③	4

$i = 0,\ 1 \neq 1$ ✗ ✗

$i = 1\quad 5 \neq 5$ ✗

$i = 2,\quad 3 \neq 3$ ✗

$i = 3,\ (2 \neq 7)$ ✓

$(\text{arr1}[i]\ != \text{arr2}[i]) \rightarrow \text{Syso}(i);$
$\qquad\qquad\qquad\qquad\quad \text{return};$

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr1 = new int[n];
    for (int i = 0; i < n; i++) {
        arr1[i] = scn.nextInt();
    }

    int[] arr2 = new int[n];
    for (int i = 0; i < n; i++) {
        arr2[i] = scn.nextInt();
    }

    solve(arr1, arr2, n);
}

public static void solve(int[] arr1, int[] arr2, int n) {

    for (int i = 0; i < n; i++) {
        if ( arr1[i] != arr2[i] ) {
            System.out.println(i);
            return;
        }
    }
    System.out.println(-1);
    return;
}
```

Sum of all Elements of Array

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }
    // main logic
    sumOfAllElements(arr, n);
}

public static void sumOfAllElements(int[] arr, int n) {
    int ans = 0;
    for (int i = 0; i < n; i++) {
        ans = ans + arr[i];
    }
    System.out.println(ans);
}


public static int sumOfAllElements(int[] arr, int n) {
    int ans = 0;
    for (int i = 0; i < n; i++) {
        ans = ans + arr[i];
    }
    return ans;
}
```

non return type

return type

$ans = 0 =$

arr

1	2	5	17	-5	0	0	3	-2
0	1	2	3	4	5	6	7	8

$i = 0$, $ans = 1$ $i = 7$ $ans = 23$

$i = 1$, $ans = 3$ $i = 8$, $ans = 21$

$i = 2$, $ans = 8$

$i = 3$, $ans = 25$

$i = 4$, $ans = 20$

$i = 5$, $ans = 20$

$i = 6$, $ans = 20$

rule

if condition or for loop contains only 1 line

if written without brackets

GKSTR35 Count_Even

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int n = scn.nextInt();
    int[] arr = new int[n];
    for (int i = 0; i < n; i++) {
        arr[i] = scn.nextInt();
    }

    countEven(arr, n);
}

public static void countEven(int[] arr, int n) {
    int count = 0;
    for (int i = 0; i < n; i++) {
        if ( arr[i] % 2 == 0 ) {
            count = count + 1;
        }
    }
    System.out.println(count);
}
```

arr

0	1	2	3	4	5	6	7	8
3	2	5	4	10	0	9	2	4

count = 0

$i=0,$ odd   count = 0

$i=1,$ even   count = 1

$i=2,$ odd   count = 1

$i=3,$ even   count = 2

$i=4,$ even   count = 3

$i=5,$ even   count = 4

$i=6,$ odd   count = 4

$i=7,$ even   count = 5

$i=8,$ even   count = 6

H.W

till page 3

0 4

Complete