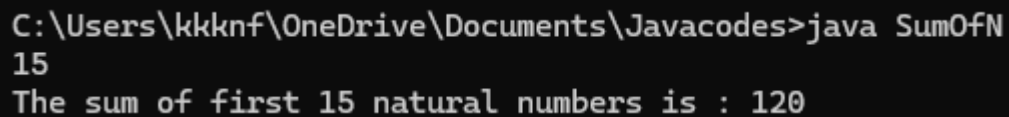


Java – Loops, branching and Arrays

1. The sum of N natural numbers using while loop :

```
import java.util.*;
class SumOfN {
    public static void main (String args[]){
        Scanner scan = new Scanner(System.in);
        int i = 1 , s = 0 ;
        int n = scan.nextInt();
        while (i<n+1){
            s += i ;
            i ++ ;
        }
        System.out.printf("The sum of first %d natural numbers is : %d",n,s);
    }
}
```



```
C:\Users\kkknf\OneDrive\Documents\Javacodes>java SumOfN
15
The sum of first 15 natural numbers is : 120
```

2. Finding the largest element in an array using for loop :

```
import java.util.*;
class BigInArray{
    public static void main (String args[]){
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        int[] a = new int[n];
        for ( int i= 0 ; i<n ; i++){
            a[i] = sc.nextInt();
        }
        int b = a[0];
        for ( int i=0 ; i<n ; i++){
            if (a[i] > b){
                b = a[i];
            }
        }
        System.out.print("The largest element is :"+b);
    }
}
```

```
C:\Users\kkknf\OneDrive\Documents\Javacodes>java BigInArray
5
12 103 12 29 10
The largest element is :113
```

3. Finding the sum of the maximum and minimum element in an array :

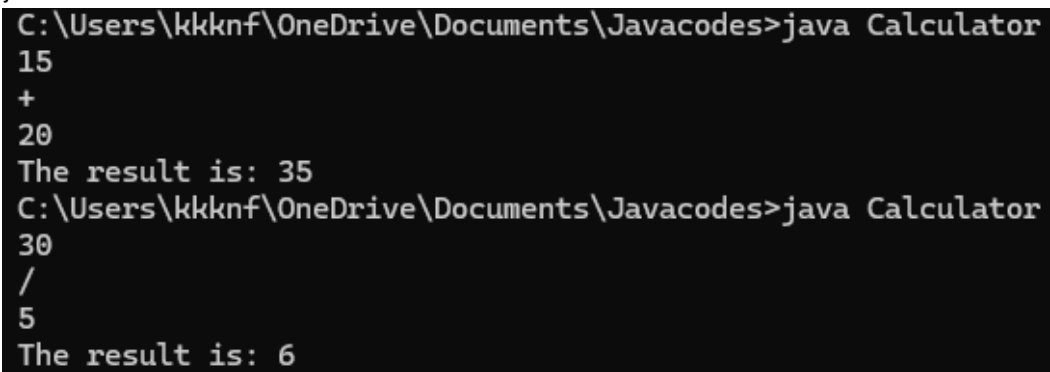
```
import java.util.*;
class SumOfmaxnmin{
public static void main (String args[]){
Scanner sc = new Scanner(System.in);
int n = sc.nextInt();
int[] a = new int[n];
for ( int i= 0 ; i<n ; i++){
a[i] = sc.nextInt();
}
int b = a[0];
for ( int i=0 ; i<n ; i++){
if (a[i] > b)
b = a[i];
}
int s = a[0];
for ( int i=0 ; i<n ; i++){
if (a[i] < s)
s = a[i];
}
r = b+s;
System.out.print("The largest element is :"+r);
}
}
```

```
C:\Users\kkknf\OneDrive\Documents\Javacodes>javac SumOfmaxnmin.java
C:\Users\kkknf\OneDrive\Documents\Javacodes>java SumOfmaxnmin
5
10 243 329 249 250
The largest element is :339
```

4. A basic calculator using switch case :

```
import java.util.*;
class Calculator {
public static void main (String args[]){
Scanner scan = new Scanner(System.in);
int r=-1 ;
int a = scan.nextInt();
scan.nextLine();
char d = scan.next().charAt(0);
int b = scan.nextInt();
```

```
switch (d){  
case '+': r = a+b;  
break;  
case '-': r = a-b;  
break;  
case '/': r = a/b;  
break;  
case '*': r = a*b ;  
break;  
case '%': r = a%b ;  
break;  
}  
System.out.print("The result is: "+r);  
}  
}
```



The screenshot shows a terminal window with a black background and white text. It displays the execution of a Java program named 'Calculator'. The first run shows the input '15 + 20' and the output 'The result is: 35'. The second run shows the input '30 / 5' and the output 'The result is: 6'. The terminal prompt is 'C:\Users\kkknf\OneDrive\Documents\Javacodes>'.

```
C:\Users\kkknf\OneDrive\Documents\Javacodes>java Calculator  
15  
+  
20  
The result is: 35  
C:\Users\kkknf\OneDrive\Documents\Javacodes>java Calculator  
30  
/  
5  
The result is: 6
```