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);
}
}
```

```
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
```