2. OPERATORS

1.
Function for arithmetic operators(+,-,*,/) :

```
public class Exercise1
{
   int add(int num1, int num2)
   {
      return num1+num2;
   }
   int sub(int num1, int num2)
   {
      return num1-num2;
   }
   int mul(int num1, int num2)
   {
      return num1*num2;
   }
    int div(int num1, int num2)
   {
      return num1/num2;
   }
   public static void main(String[] args)
   {
         Exercise1 obj = new Exercise1;
         //This will call the add method
         System.out.println("Sum of two numbers: "+obj.add(10, 20));
         //This will call subtraction method
         System.out.println("Difference of two numbers: "+obj.sub(10, 20));
         //This will call multiplication method
         System.out.println("Multiplication of two numbers: "+obj.mul(10,20));
         //This will call division method
         System.out.println("Division of two numbers: "+obj.div(10,20));
   }
}
```

Output-
Sum of two numbers: 30
Difference of two numbers: -10
Multiplication of two numbers: 200
Division of two numbers: 0

2.
increment and decrement operators(++, --)-

```
public class Exercise2
{
         public static void main(String args[])
         {
                  int x=10;
```

```
                System.out.println(x++);//post-increment 10 (11)
                System.out.println(++x);//pre-increment 12
                System.out.println(x--);// post-decrement 12 (11)
                System.out.println(--x);//pre-decrement 10
        }
}
```

Output -
10
12
12
10

3.
Equal operator and not equal operators -

```
public class  Exercise3
{
     public static void main(String[] args)
    {
        int a=1;
        int b=1;
        int c=2;
        if(a == b)
                System.out.println("Equal(1==1)");
        if(a != c)
                System.out.println("Not equal(1!=2)");
  }
}
```

Output -
Equal(1==1)
Not equal(1!=2)

4.
To find whether the two numbers equal or not-

```
import java.util.Scanner;
public class Exercise4
{
        public static void main(String[] args)
        {
                Scanner in=new Scanner(System.in);
                //dynamic input
                System.out.println("Enter any two numbers to check for equality: ");
                int a=in.nextInt();
                int b=in.nextInt();
                if(a==b)
                        System.out.println("The two numbers are equal");
                else if(a!=b)
                        System.out.println("The two numbers are not equal");
```

```
        }
}
```

Output -
Enter any two numbers to check for equality:
5 4
The two numbers are not equal

5.
Logical AND,OR operator and Logical NOT -

```
public class Exercise5
{
        public static void main(String[] args)
        {
                boolean bool1 = true, bool2 = false;
                //Logical AND
                System.out.println("bool1 && bool2 = " + (bool1 && bool2));
                //Logical OR
                System.out.println("bool1 || bool2 = " + (bool1 | bool2) );
                //Logical Not
                System.out.println("!(bool1 && bool2) = " + !(bool1 && bool2));
        }
}
```

Output-
bool1 && bool2 = false
bool1 || bool2 = true
!(bool1 && bool2) = true

6.
relational operators (<,<==, >, >==)

```
public class Exercise6
{
    public static void main(String args[])
   {
        int a = 10;
        int b = 20;
        System.out.println("a < b : " + (a < b) );
        System.out.println("b <= a : " + (b <= a) );
        System.out.println("a > b : " + (a > b) );
        System.out.println("b >= a : " + (b >= a) );
   }
}
```

Output-
a < b : true
b <= a : false
a > b : false
b >= a : true

7.
Smaller and larger number -

```
import java.util.Scanner;
public class Exercise7
{
	public static void main(String[] args)
	{
		int a, b;
		Scanner sc = new Scanner(System.in);
		System.out.print(" Enter the value of a : ");
		a = sc.nextInt();
		System.out.print(" Enter the value of b : ");
		b = sc.nextInt();
		if(a > b)
		{
			System.out.println(" The Larger Number = \n" + a);
			System.out.println(" The Smaller Number = \n" + b);
		}
		else if (b > a)
		{
			System.out.println(" The Larger Number = \n" + b);
			System.out.println(" The Smaller Number = \n" + a);
		}
		else
		System.out.println("\n Both are Equal");
	}
}
```

Output-

```
 Enter the value of a : 10
 Enter the value of b : 20
The Larger Number = 20
The Smaller Number = 10
```