1. Write your own program using arthmetic operators.

```
import java.util.Scanner;

public class ArithmeticOperators {

	public static void main(String[] args) {

	// write a program using arthmetic operators.

	Scanner sc = new Scanner(System.in);

	System.out.println("Please enter two numbers");

	int num1 = sc.nextInt();

	int num2 = sc.nextInt();

	// The binary Arithmetic operators are + - * / %

	System.out.println("The addition of two integers is:" + (num1 + num2));

	float result = num1 - num2;

	float result2 = num1 / num2;

	System.out.println("The subraction of two numbers is:" + result);

	System.out.println("The multiplication of two numbers is:" + (num1 * num2));

	System.out.println("The division of two numbers is:" + result2);

	System.out.println("The remainer when the first number is divided by second number:" +
(num1 % num2));

	// Unary operators are which operates on single operand + -

	System.out.println("The -(minus) opertor will negates the result:" + -result);

	char ch = 'A';

	System.out.println("increment,decrement: The + operator will promotes the output to int if
it is byte or char or short:" + +ch);

	// ++ --(increment,decrement)

	System.out.println("post incremnt:prints and then increments:" + num1++);// post
increment

	System.out.println("pre increment:first increments and then prints:" + ++num1);// pre
increment

	System.out.println("post decrement:first prints and then decrements:" + num2--);// post
decrement

	System.out.println("pre decrement:first decrements and then prints" + --num2);// pre
decrement

	}
```

```
	}
```

2. Write your own program using arthmetic assignment operators.

```
import java.util.Scanner;
public class AssignmentOperator {
	public static void main(String[] args) {
	// TODO Auto-generated method stub
	Scanner sc = new Scanner(System.in);
	System.out.println("Please enter two numbers");
	int a = sc.nextInt();
	int b = sc.nextInt();
	System.out.println("a+=b=" + (a+=b));//this operation performs a=a+b
	System.out.println("a-=b="+(a-=b));//this operation performs a=a-b
	System.out.println("a*=b="+(a*=b));//this operation performs a=a*b
	System.out.println("a/=b1"+(a/=b));//this operation performs a1=a1/b1
	System.out.println("a%=b"+(a%=b)); //this operation performs a1=a1%b1 the value of b1 to
a1
	System.out.println("a=b"+(a=b));//this assigns the value of b1 to a1
	}
	}
```

3. Write your own program using relational operators.

```
import java.util.Scanner;
public class RelationalOperator {
	public static void main(String[] args) {
	// TODO Auto-generated method stub
	//The relational operators are == > < <= >= !=
	Scanner sc = new Scanner(System.in);
	System.out.println("Please enter two numbers");
	int num1 = sc.nextInt();
	int num2 = sc.nextInt();
	System.out.println("The relational operators checks the given condition and returns boolean
value i.e, true or false");
```

```
System.out.println(num1==num2);//if num1 is equal to num2 ,returns true else false
System.out.println(num1>num2);//if num1 is greater than num2 ,returns true else false
System.out.println(num1<num2);//if num1 is smaller than num2 ,returns true else false
System.out.println(num1>=num2);//if num1 is greater than or equal to num2 ,returns true else false
System.out.println(num1<=num2);//if num1 is smaller than or equal to num2 ,returns true else false
System.out.println(num1!=num2);//if num1 is not equal to num2 ,returns true else false
}
}
```

4. Write your own program using logical operators

```
import java.util.Scanner;
public class LogicalOperator {
public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);
System.out.println("Please enter four numbers");
int num1 = sc.nextInt();
int num2 = sc.nextInt();
int num3=sc.nextInt();
int num4=sc.nextInt();
// && operator(Logical AND prints true only if both expression1 and expression2 are true
System.out.println("logical AND operation");
System.out.println((num1 > num2) && (num3 > num4));
System.out.println((num1> num2) && (num3 < num4));
// || (Logical OR) operator prints true if either expression1 or expression2 is true
System.out.println("logical OR operation");
System.out.println((num1< num2) || (num3 > num4));
System.out.println((num1 > num2) || (num3 < num4));
System.out.println((num1 < num2) || (num3 < num4));
// !(Logical NOT) operator prints true if expression is false and vice versa
```

```
System.out.println("logical NOT operation");
System.out.println(!(num1== num2));
System.out.println(!(num1<num2));
System.out.println(!(num2>=num4));
System.out.println(!(num4<= num3));
}
}
```

5. Write your own program to show the use of assignment operator.

```
import java.util.Scanner;
public class AssignmentOperator{
public static void main(String[] args) {
// TODO Auto-generated method stub
int a = 10;
System.out.println("Assignment operator +=: "+ (a+=1));
System.out.println("Assignment operator -=: "+ (a-=1));
System.out.println("Assignment operator *=: "+ (a*=2));
System.out.println("Assignment operator /=: "+ (a/=2));
}
}
```

6. Write a program to check age of student is greater than 18.

```
import java.util.Scanner;
public class CheckStudentAge{
public static void main(String[] args) {
// Write a program to check age of student is greater than 18.
Scanner sc =new Scanner(System.in);
System.out.println("Enter the age:");
int age=sc.nextInt();
String result=age>18?"major":"minor"; //Conditional operator is used to check the condition and display
```

```
System.out.println(result);
}
}
```

7.Write a program to check number is even or odd

```
import java.util.Scanner;
public class EvenOdd {
	public static void main(String[] args) {
	// Write a program to check number is even or odd.
	Scanner sc =new Scanner(System.in);
	System.out.println("Enter a number:");
	int num=sc.nextInt();
	String check=num%2==0? +num+ " is even":+num+ " is odd"; //conditional operator is used to check the condition
	System.out.println(check);
	}
	}
```

8.write a program to check whether number is greater than 100 and 200.

```
import java.util.Scanner;
public class GreaterNo {
public static void main(String[] args) {
// write a program to check whether number is greater than 100 and 200.
Scanner sc =new Scanner(System.in);
System.out.println("Enter a number:");
int num=sc.nextInt();
int num1=100, num2=200;
String result = num > num1 && num > num2 ? "number is greater than 100 and 200." : "number is not greater than 100 and 200.";
System.out.println(result);
}
}
```

9.write a program to check whether both numbers are same or not.

```
import java.util.Scanner;
public class CkeckNoEqualsOrNot {
	public static void main(String[] args) {
	//write a program to check whether both numbers are same or not.
	Scanner sc =new Scanner(System.in);
	System.out.println("Enter a number1:");
	int num1=sc.nextInt();
	System.out.println("Enter a number2:");
	int num2=sc.nextInt();
	String check=num1==num2?"numbers are equal":"numbers are not equal"; //Assignment
opr
	System.out.println(check);
	}
	}
```