PROGRAM 1

Aim: Program to print “Hello World” in JAVA

```
class HelloWorld
{
    public static void main(String[] args)
    {
        System.out.println("Hello, World!");
    }
}
```

Output:

```
java -cp /tmp/QFbuUHRPpx HelloWorld
Hello, World!
```

PROGRAM 2

Aim: Sum of two numbers and difference of two numbers

```
public class SubtractTwoNum
{
public static void main(String args[])
{
int num1=35,num2=56,sub;
sub=num2-num1;
System.out.println("Difference of two numbers: "+sub);
}
}
```

```
public class SumOfNumbers1
{
public static void main(String args[])
{
int n1 = 225, n2 = 115, sum;
sum = n1 + n2;
System.out.println("The sum of numbers is: "+sum);
}
}
```

Output:

```
java -cp /tmp/QFbuUHRPpx SumOfNumbers1
The sum of numbers is: 340
```

```
java -cp /tmp/buftlPI1lk SubtractTwoNum
Difference of two numbers: 21
```

PROGRAM 3

Aim: Sum of two numbers and difference of two numbers

```
import java.util.Scanner;
public class AddSub
{
public static void main(String args[] )
{
int a,b,add, subtract;
System.out.println("Enter Two Numbers : ");
Scanner skill = new Scanner(System.in);
a = skill.nextInt();
b = skill.nextInt();
add = a+b;
subtract = a -b;
System.out.println("Addition of two numbers= " + add);
System.out.println("Difference of two numbers = " +subtract);
}
}
```

Output;

```
java -cp /tmp/buftlPI1lk AddSub
Enter Two Numbers :
23 12
Addition of two numbers= 35
Difference of two numbers = 11
```

PROGRAM 4

Aim: Multiplication table of a number

```
import java.util.Scanner;
public class Multiplication_Table
{
public static void main(String[] args)
{
Scanner s = new Scanner(System.in);
System.out.print("Enter number:");
int n=s.nextInt();
for(int i=1; i <= 10; i++)
{
System.out.println(n+" * "+i+" = "+n*i);
}
}
}
```

Output:

```
java -cp /tmp/buftlPI1lk
Enter number:7
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
```

PROGRAM 5

Aim: Basic calculator

```
1  import java.util.Scanner;
2  class Main {
3   public static void main(String[] args) {
4  char operator;
5  Double number1, number2, result;
6  Scanner input = new Scanner(System.in);
7  System.out.println("Choose an operator: +, -, *, or /");
8  operator = input.next().charAt(0);
9  System.out.println("Enter first number");
10 number1 = input.nextDouble();
11 System.out.println("Enter second number");
12 number2 = input.nextDouble();
13 switch (operator) {
14 case '+':
15 result = number1 + number2;
16 System.out.println(number1 + " + " + number2 + " = " + result);
17 break;
18 case '-':
```

```
result = number1 - number2;
System.out.println(number1 + " - " + number2 + " = " + result);
break;
case '*':
result = number1 * number2;
System.out.println(number1 + " * " + number2 + " = " + result);
 break;
case '/':
result = number1 / number2;
System.out.println(number1 + " / " + number2 + " = " + result);
break;
 default:
System.out.println("Invalid operator!");
break;
}
input.close();
}
}
```

Output:

```
java -cp /tmp/buftlPI1lk Main
Choose an operator: +, -, *, or /
*
Enter first number
12
Enter second number
23
12.0 * 23.0 = 276.0
```

PROGRAM 6

Aim: Ascending/Descending order

```
import java.util.Scanner;
public class ArraySortingExample {
    public static void main(String[] args) {
        Scanner ed = new Scanner(System.in);
        int[] a = new int[5];
        int i, j, temp;
        System.out.println("Please Enter 5 elements in the
            Array");
        for (i = 0; i < 5; i++) {
            a[i] = ed.nextInt();
        }
        for (i = 0; i < 5; i++) {
            for (j = i + 1; j < 5; j++) {
                if (a[i] > a[j]) {
```

```
                    temp = a[i];
                    a[i] = a[j];
                    a[j] = temp;
                }
            }
        }
        System.out.println("Sorted Array in Increasing Order:-"
            );
        for (j = 0; j < 5; j++) {
            System.out.println(a[j]);
        }
        for (i = 0; i < 5; i++) {
            for (j = i + 1; j < 5; j++) {
                if (a[i] < a[j]) {
                    temp = a[i];
                    a[i] = a[j];
                    a[j] = temp;
                }
            }
        }
        System.out.println("Sorted Array in Decreasing Order:-"
            );
        for (j = 0; j < 5; j++) {
            System.out.println(a[j]);
        }
    }
}
```

Output:

```
java -cp /tmp/hYUgRrdm8Q ArraySortingExample
Please Enter 5 elements in the Array
34 56 86 13 97
Sorted Array in Increasing Order:-13
34
56
86
97
Sorted Array in Decreasing Order:-
97
86
56
34
13
```

PROGRAM 7

Aim: Implementing multiple arrays using inheritance

```
interface Walkable {
    void walk();
}
interface Swimmable {
    void swim();
}
class Duck implements Walkable, Swimmable {
    public void walk()
    {
        System.out.println("Duck is walking.");
    }
    public void swim()
    {
        System.out.println("Duck is swimming.");
    }
}
class Main {
    public static void main(String[] args)
    {
        Duck duck = new Duck();
        duck.walk();
        duck.swim();
    }
}
```

Output

```
java -cp /tmp/hYUgRrdm8Q Main
Duck is walking.
Duck is swimming.
```

PROGRAM 8

Aim: Accessing the elements of an array

```java
import java.util.Scanner;
 public class ArrayElements
 {
        public static void main(String[] args)
        {
           int[] numArray = new int[5];
           int i;
           Scanner input=new Scanner(System.in);
           System.out.print("Enter the 5 Array Elements : ");
           for(i=0; i<5; i++)
               numArray[i]=input.nextInt();
           for(i=0; i<numArray.length; i++)
              System.out.println("Array element[" + i + "] : "
                  +numArray[i]);
         }
 }
```

Output:

```
java -cp /tmp/hYUgRrdm8Q ArrayElements
Enter the 5 Array Elements : 23
34
24
12
65
Array element[0] : 23
Array element[1] : 34
Array element[2] : 24
Array element[3] : 12
Array element[4] : 65
```