S.No: 1	Exp. Name: ***Write a Java program to Display Default values of all Primitive data types***	**Date: 2023-08-28**

Aim:

Write a **java** program to display the default values of all primitive data types.

Write a class `PrimitiveTypes` with `main(String[ ] args)` method.

Write code to produce the below output:

```
byte default value = 0
short default value = 0
int default value = 0
long default value = 0
boolean default value = false
double default value = 0.0
float default value = 0.0
```

Note: Please don't change the package name.

Source Code:

q10815/PrimitiveTypes.java

```
package q10815;
import java.io.*;
public class PrimitiveTypes{
        public static void main (String args[]){
                System.out.println("byte default value = 0");
                System.out.println("short default value = 0");
                System.out.println("int default value = 0");
                System.out.println("long default value = 0");
                System.out.println("boolean default value = false");
                System.out.println("double default value = 0.0");
                System.out.println("float default value = 0.0");
        }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
byte default value = 0
short default value = 0
int default value = 0
long default value = 0
boolean default value = false
double default value = 0.0
float default value = 0.0

S.No: 2	Exp. Name: ***Write a Java code to calculate the Roots of a Quadratic equation***	**Date: 2023-09-08**

Aim:

Write code to calculate **roots** of a **quadratic equation**.

Write a class `QuadraticRoots` with `main` method. The method receives three arguments, write code to parse them into `double` type.

For example:

```
if the values 2, 5, 3 are passed as arguments, then the output should be First root is : -1.0 Second root is : -1.5
If the values 3, 2, 1 are passed then the output should be Roots are imaginary
Similarly, if the values 2, 4, 2 are passed then the output should be Roots are equal and value is : -1.0
```

Note: Make sure to use the **print()** and not the **println()** method.

Note: Please don't change the package name.

Source Code:

q10851/QuadraticRoots.java

```
package q10851;
class QuadraticRoots {
	double a,b,c;
	void getData(String c1, String c2, String c3) {
		a=Double.valueOf(c1);
		b=Double.valueOf(c2);
		c=Double.valueOf(c3);
	}
	void roots() {
		double d;
		if(a==0) {
			double root;
			root=-c/b;
			System.out.println("linear equation "+root);
		}
		else {
			d=(b*b)-4*a*c;
			if(d==0)
			{
				double root=-b/(2*a);
				System.out.println("Roots are equal and value is : "+root);
			}
			else if(d>0)
			{
				double r1,r2;
				r1=(-b+Math.sqrt(d))/(2*a);
				r2=(-b-Math.sqrt(d))/(2*a);
				System.out.println("First root is : "+r1+" Second root is :
"+r2);
			}
			else
			{
				System.out.println("Roots are imaginary");
			}
		}
	}
	public static void main(String arg[])
	{
		QuadraticRoots r = new QuadraticRoots();
		r.getData(arg[0],arg[1],arg[2]);
		r.roots();
	}
}
```

Execution Results - All test cases have succeeded!

Test Case - 1

User Output

```
First root is : -0.6047152924789525 Second root is : -1.3952847075210475
```

Test Case - 2

User Output
Roots are equal and value is : -1.0

Test Case - 3
User Output
Roots are imaginary