

## Lab : 1

①

```
import java.util.Scanner;
class roots
{
    public static void main (String args[])
    {
        int a, b, c;
        float d;
        double x1, x2;
        Scanner input = new Scanner (System.in);
        System.out.println ("Enter the coefficient of  $x^2$ ");
        a = input.nextInt();
        System.out.println ("Enter the coefficient of  $x$ ");
        b = input.nextInt();
        System.out.println ("Enter the constant");
        c = input.nextInt();
        d = ((b*b) - (4*a*c));
        x1 = ((-b + Math.sqrt(d))/2);
        x2 = ((-b - Math.sqrt(d))/2);
        if (d > 0)
        {
            System.out.println ("Roots are real and distinct")
        }
    }
}
```

```
system.out.println("Roots are "+x1+" and "+x2);
```

```
}
```

```
else if (d == 0)
```

```
{
```

```
system.out.println("Roots are real and equal");
```

```
system.out.println("Roots are "+x1+" and "+x2);
```

```
}
```

```
else
```

```
{
```

```
system.out.println("These are no real roots");
```

```
}
```

```
}
```

```
}
```