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~~Week 2~~ Practice Programme:-

Week 3 LAB PROGRAM.

Q. Develop a Java Program that prints all real solutions to the quadratic equation $ax^2 + bx + c = 0$. Read in a, b, c and use the quadratic formula. If the discriminant $b^2 - 4ac$ is negative, display a message stating that there are no real solutions.

```
import java.util.Scanner;
```

```
public class Quadratic  
{
```

```
    public static void main(String args[])  
    {
```

```
        double x=0, y=0;
```

```
        double a, b, c;
```

```
        double det;
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.println("Enter the value of a:");
```

```
        a = sc.nextDouble();
```

```
        System.out.println("Enter the value of b:");
```

```
        b = sc.nextDouble();
```

```
        System.out.println("Enter the value of c:");
```

```
        c = sc.nextDouble();
```

```
        det = (b*b) - (4*a*c);
```

```
        double sqrt = Math.sqrt(det);
```

```
if (det > 0)
```

```
{
```

```
    x = (-b + sqrt(c)) / (2 * a);
```

```
    y = (-b - sqrt(c)) / (2 * a);
```

```
    System.out.println("Roots are : " + x + " and " + y);
```

```
}
```

```
else if (det == 0)
```

```
{
```

```
    System.out.println("Root is : " + (-b + sqrt(c)) / (2 * a));
```

```
}
```

```
else
```

```
    System.out.println("There are no real solutions");
```

```
}
```

```
}
```