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1BM19CS008

Week 3

29/9

```
import java.util.Scanner; import java.lang.Math;
public class Roots
{
  public static void main(String args[])
  {
    double secondroot=0, firstroot=0;
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the values of a,b,c");
    double a = sc.nextDouble();
    double b = sc.nextDouble();
    double c = sc.nextDouble();
    double det = Math.sqrt((b*b)-(4*a*c));

if (det>0)
  {
    firstroot = (-b + Math.sqrt(det))/(2*a);
    secondroot = (-b - Math.sqrt(det))/(2*a);
    System.out.println("Roots are : "+firstroot+"and"
                       +secondroot);
  }
else if (det==0)
  System.out.println("Roots is : "+(-b+det)/(2*a))
else if (det<0)
  System.out.println("no roots exist");
  }
}
```

Algorithm:

1. Input three nos a, b, c
2. $det = \sqrt{b^2 - 4ac}$
3. if det > 0 then roots = $(-b \pm det)/2a$
4. else if det = 0 then roots = $-b/2a$
5. else if det < 0 then no real roots exist.
6. end.