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C:\Users\Pankaj Gupta>cd C:\Users\Pankaj Gupta\Desktop\JAVA

C:\Users\Pankaj Gupta\Desktop\JAVA>javac Roots.java

C:\Users\Pankaj Gupta\Desktop\JAVA>java Roots

Enter the coefficients of  $x^2$ ,  $x$ , and constant term

2

-5

6

There are no real solutions

C:\Users\Pankaj Gupta\Desktop\JAVA>java Roots

Enter the coefficients of  $x^2$ ,  $x$ , and constant term

1

2

1

Roots are real and equal

Roots are -1.0 and -1.0

C:\Users\Pankaj Gupta\Desktop\JAVA>java Roots

Enter the coefficients of  $x^2$ ,  $x$ , and constant term

1

-6

5

Roots are real and distinct

Roots are 5.0 and 1.0

C:\Users\Pankaj Gupta\Desktop\JAVA>\_



```
/*Java program to find roots of quadratic equation
Call these file as Roots.java*/
import java.util.*;
class Roots{
public static void main(String args[]){
double a,b,c,d,x1,x2;
Scanner in = new Scanner(System.in);
System.out.println("Enter the coefficients of x^2, x, and constant term");
a=in.nextDouble();
b=in.nextDouble();
c=in.nextDouble();
d=b*b-4*a*c;
if(d>0){
x1=(-b+Math.sqrt(d))/2*a;
x2=(-b-Math.sqrt(d))/2*a;
System.out.println("Roots are real and distinct");
System.out.println("Roots are "+x1+" and "+x2);
}
else if(d==0){
x1=x2=-b/2*a;
System.out.println("Roots are real and equal");
System.out.println("Roots are "+x1+" and "+x2);
}
else if(d<0){

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

}
}
}
```

