3/1/24 LAB PRG-1 QUAPRATIC EQUATION import java, util. Skanner; double a, b, c; Quad (double a, double b, double c) void calc() double d= b\*b-4\*a\*c; double cost 1; double sort 2; if (a = = 0) System. out. printh ["Please enter valid quadrati equation) if (d = = 0) ext!: (-b)/(2xx); lytem. out. println ( root 1) ' 4

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	0 to 1 of H ( 8 cat 1 + " " + 8 cat 2).
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	loot   = (-b)/(2 * a);
Sec.	eoot 2 = Math. abs (d) /(2 *a);
	System. out. printly ("Poots are imaginay");
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	Quad quadratin = new Quad (a, b, e),
	quadratice (ale(); input . close())

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import java.util.Scanner;
class Quad
{
double a,b,c;
Quad(double a,double b,double c)
{
this.a=a;
this.b=b;
this.c=c;
}
void calc()
{
double d=b*b-4*a*c;
double root1,root2;
if(a==0)
{
System.out.println("Please enter valid quadratic equation");
}
else
{
if(d==0)
{
System.out.println("Roots are real and equal:");
System.out.println("Root1 = Root2: "+(-b/2*a));
}
```

```
else if(d>0)
{
System.out.println("Roots are real and distinct:");
root1=(-b+Math.sqrt(d))/(2*a);
root2=(-b-Math.sqrt(d))/(2*a);
System.out.println("Root1: "+root1+"\nRoot2: "+root2);
}
else
{
root1=(-b)/(2*a);
root2=Math.abs(d)/(2*a);
System.out.println("Roots are imaginary: ");
System.out.println("Root1: "+root1+" +i "+root2);
System.out.println("Root2: "+root1+" -i "+root2);
}
}
}
}
class Quadrun
{
public static void main(String[] args)
{
Scanner input=new Scanner(System.in);
System.out.print("Enter value of a: ");
double a=input.nextDouble();
System.out.print("Enter value of b: ");
double b=input.nextDouble();
System.out.print("Enter value of c: ");
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```
double c=input.nextDouble();
Quad quadratic=new Quad(a,b,c);
quadratic.calc();
input.close();
}
}
OUTPUTS:
Enter value of a: 1
Enter value of b: 5
Enter value of c: 6
Roots are real and distinct:
Root1: -2.0
Root2: -3.0
Enter value of a: 1
Enter value of b: 5
Enter value of c: 6
Roots are real and distinct:
Root1: -2.0
Root2: -3.0
Enter value of a: 3
Enter value of b: 1
Enter value of c: 4
Roots are imaginary:
```

Enter value of a: 0

Enter value of b: 4

Enter value of c: 5

Please enter valid quadratic equation