~~★ Palindrome :~~ Shivaraj. K. Pujari 1BM22CS259

★ Quadratic equation :-

→ import java.util.*;
class Quadratic {
int a, b, c;
double r1, r2, d;

```
void getd(){
    Scanner s= new Scanner(System.in);
    System.out.println("Enter co-efficients");
    a= s.nextInt();
    b= s.nextInt();
    c= s.nextInt();
}
void compute(){
    while(a==0){
        System.out.println("Not a quad equn");
        System.out.println("Enter a non-zero value of a:");
        Scanner sc= new Scanner(System.in);
        a=sc.nextInt();
    }
    d= b*b-4*a*c;
    if(d==0){
        r11= (-b)/(2*a);
        System.out.println("Roots are equal & real");
        System.out.println("root1=root2="+r1);
    }
    else if(d>0){
        r1= ((-b)+(Math.sqrt(d)))/(double)(2*a);
        r2= ((-b)-(Math.sqrt(d)))/(double)(2*a);
        System.out.println("roots are real & distinct");
        System.out.println("root1="+r1+"root2="+r2);
    }
```

```
else if (d<0){
    System.out.println ("Roots are imaginary");
    r1 = (-b) / (2*a);
    r2 = Math.sqrt(-d) / (2*a);
    System.out.println ("Root 1 = " + r1 + "+i " + r2);
    System.out.println ("Root 2 = " + r1 + "-i " + r2);
}}
public class quadraticmain {
    public static void main (String args[])
    {
        Quadratic q = new Quadratic();
        q.getd();
        q.compute();
        System.out.println ("Name: Shivaraj K P");
        System.out.println ("USN: 1BM22CS259");
    }
}
```

=> O/p:

a) Enter co-efficients :

1 -4 4

Roots are real & equal

root1 = root2 = 2.0

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b) 1 -2 4

Roots are imaginary

Root1 = 1.0 + i1.732

Root2 = 1.0 - i1.732

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c) 1 , -5 , 6

Roots are real & distinct

Root 1 = 3

Root 2 = 2

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