```java
import java.util.*;
class Qd
{
  public static void main(String[] args)
{
  int a,b,c,count=0;
  double D;
  Scanner sc=new Scanner(System.in);
  System.out.println("\nEnter the values of a,b,c:");
  a=sc.nextInt();
  b=sc.nextInt();
  c=sc.nextInt();
  D=(b*b)-(4*a*c);
  if(D==0)
  {
  System.out.println("Roots are real and equal");
  count=1;
  }
  else if(D>0)
  {
  System.out.println("Roots are real and unequal");
  count=1;
  }
  else if(D<0)
  {
  System.out.println("Roots are imaginary");
  }
if(count==1)
{
  double r1=((-b+Math.sqrt(D))/(2*a));
  double r2=((-b-Math.sqrt(D))/(2*a));
  System.out.println("Roots are:"+r1+","+r2);
}
}
}
```

```
 marks[i]=sc.nextInt();
}
}
void grade_points()
{
    int i;
    for(i=0;i<n;i++)
    {
        if(marks[i]>=90 && marks[i]<100)
        {
            marks[i]=10;
        }
        else if(marks[i]>=80 && marks[i]<90)
        {
            marks[i]=9;
        }
        else if(marks[i]>=70 && marks[i]<80)
        {
            marks[i]=8;
        }
        else if(marks[i]>=60 && marks[i]<70)
        {
            marks[i]=7;
        }
        else if(marks[i]>=50 && marks[i]<60)
        {
            marks[i]=6;
        }
        else if(marks[i]>=40 && marks[i]<50)
        {
            marks[i]=4;
        }
        else if(marks[i]<40)
        {
```

```java
        }
        else if(marks[i]>=40 && marks[i]<50)
        {
            marks[i]=4;
        }
        else if(marks[i]<40)
        {
            marks[i]=0;
        }
    }
}
void calculate_SGPA()
{
 int i;
 for(i=0;i<n;i++)
 {
  SGPA=SGPA+(credits[i]*marks[i]);
 }
  SGPA=SGPA/tot;
}
void display_details()
{
    System.out.println("The student with USN:"+USN+", Name:"+name+" has SGPA:"+SGPA);
}
public static void main(String[] args)
{

 Student13 obj=new Student13();
 obj.input();
 obj.grade_points();
 obj.calculate_SGPA();
 obj.display_details();
}
}
```

```
Microsoft Windows [Version 10.0.18363.1139]
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C:\Users\tasmi>cd\

C:\>cd java

C:\java>javac Student13.java

C:\java>java Student13
Enter the USN and the name of the student
1BM19CS172
TASMIYA FATHIMA
Enter the number of subjects
5
Enter the credits for subject:1
5
Enter the credits for subject:2
4
Enter the credits for subject:3
4
Enter the credits for subject:4
4
Enter the credits for subject:5
3
Enter the marks of the student for subject:1
95
Enter the marks of the student for subject:2
86
Enter the marks of the student for subject:3
79
Enter the marks of the student for subject:4
64
Enter the marks of the student for subject:5
96
The student with USN:1BM19CS172, Name:TASMIYA FATHIMA has SGPA:8.8

C:\java>
```