Main.java

```java
import java.util.Scanner;
class Main
{
    public static void main(String args[])
    {
        System.out.println("enter the values of a,b,c for the quadratic equation:");
        Scanner sc=new Scanner(System.in);
        {   double a=sc.nextInt();
            double b=sc.nextInt();
            double c=sc.nextInt();
            double z=b*b-4*a*c;
            eqcheck ob=new eqcheck();
            if(z<0)
            {
                System.out.println("the roots are complex");
            }
            else if(z==0)
            {
                System.out.println("the roots are real and equal");
                ob.check(a,b,c);
                ob.display();
            }
            else
            {
                System.out.println(" the roots are real and distinct");
                ob.check(a,b,c);
                ob.display();
            }
        }
```

```
26                  ob.check(a,b,c);
27                  ob.display();
28              }
29          }
30      }
31  }
32  class eqcheck
33  {
34      double a;
35      double b;
36      double c;
37      double x1;
38      double x2;
39      void check(double a,double b,double c)
40      {
41          this.a=a;
42          this.b=b;
43          this.c=c;
44          double z=Math.pow(b*b-4*a*c,0.5);
45          x1=(-b+z)/(2*a);
46          x2=(-b-z)/(2*a);
47      }
48      void display()
49      {
50          System.out.println(x1);
51           System.out.println(x2);
52      }
53  }
54
```


```
enter the values of a,b,c for the quadratic equation:
2
-6
3
 the roots are real and distinct
2.366025403784384
0.6339745962155614


...Program finished with exit code 0
Press ENTER to exit console.
```

```
import java.util.*;
public class student
{
String usn,name;
static int credits[];
static double marks[];
void input(int n)
{
Scanner sc=new Scanner(System.in);
System.out.println("enter usn and name ");
usn=sc.nextLine();
name=sc.nextLine();
System.out.println("enter marks along with credits");
for(int i=0;i<n;i++)
{
marks[i]=sc.nextDouble();
credits[i]=sc.nextInt();
System.out.println();
}
}
double calculate(int n)
{
int c,cred=0;
double tot,total=0.0;
for(int i=0;i<n;i++)
{
tot=marks[i];
if(tot>=90)
                c=10;
                else if(tot>=80)
                c=9;
```

```
25 for(int i=0;i<n;i++)
26 {
27 tot=marks[i];
28 if(tot>=90)
29                 c=10;
30                 else if(tot>=80)
31                 c=9;
32                 else if(tot>=70)
33                 c=8;
34                 else if(tot>=60)
35                 c=7;
36                 else if(tot>=50)
37                 c=6;
38                 else if(tot>=40)
39 c=4;
40    else
41 c=0;
42    total=total+(c*credits[i]);
43 cred=cred+credits[i];
44 }
45 total=total/cred;
46 return(total);
47 }
48 void display(int n,double total)
49 {
50 System.out.println("name of student : "+name);
51 System.out.println("usn of student : "+usn);
52 System.out.println("marks of student along with credits of course");
53 for(int i=0;i<n;i++)
54 {
55 System.out.println(marks[i]+"    "+credits[i]);
```

```
42      total=total+(c*credits[i]);
43    cred=cred+credits[i];
44    }
45    total=total/cred;
46    return(total);
47    }
48    void display(int n,double total)
49    {
50    System.out.println("name of student : "+name);
51    System.out.println("usn of student : "+usn);
52    System.out.println("marks of student along with credits of course");
53    for(int i=0;i<n;i++)
54    {
55    System.out.println(marks[i]+"    "+credits[i]);
56    }
57    System.out.println("sgpa of student : "+total);
58    }
59    public static void main(String args[])
60    {
61    Scanner sc=new Scanner(System.in);
62    student obj=new student();
63    System.out.println("enter no of course ");
64    int n=sc.nextInt();
65    credits=new int[n];
66    marks=new double[n];
67    obj.input(n);
68    double total=obj.calculate(n);
69    obj.display(n,total);
70    }
71    }
72
```

```
enter no of course
5
enter usn and name
1BM19CS122
prithvi j
enter marks along with credits
90
2

88
2

95
1

90
2

88
3

name of student : prithvi j
usn of student : 1BM19CS122
marks of student along with credits of course
90.0   2
88.0   2
95.0   1
90.0   2
88.0   3
sgpa of student : 9.5
```