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LAB 2:

WAP to calculate roots of quadratic eqn

```
1. import java.util.Scanner;
class Main{
public static void main (String[] args)
{
  Scanner sc = new Scanner(System.in);
System.out.println("enter the values of a,b,c for the
 quadratic eqn");
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 & Equal");
  ob.check(a,b,c);
    ob.display();
}
else{
System.out.println("the roots are real &
                    distinct");
  ob.check(a,b,c);
  ob.display();
}
}
}
class eqcheck
  {
```

```
double a;
double b;
double c;
double x1;
double x2;
void check(double a, double b, double c)
 {
  this.a = a;
  this.b = b;
  this.c = c;
 double z = Math.pow(b*b - 4*a*c, 0.5);
 x1 = (-b+z)/(2*a);
 x2 = (-b-z)/(2*a);
}
void display()
{
 System.out.println(x1);
 System.out.println(x2);
}
}
```

WAP to print Result of student:

2.
```
import java.util.*;
public class Main{
 String usn, name;
 static int credits[];
 static double marks[];
 void input(int n)
  {
   Scanner sc = new Scanner(System.in);
   System.out.println("enter USN & 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;
    else if (tot >=70)
    c=8;
    else if (tot>=60)
    c=7;
    else if (tot>=50)
    c=6;
    else if (tot>=40)
    c=4;
    else
    c=0;
total = total + (c * credits[i]);
  cred = cred + credits[i];
}
    total = total/cred;
  return(total);
}
```

```
void display(int n, double total)
{
System.out.println("name of the student:"+name);
System.out.println("usn of the student:"+USN);
System.out.println("marks of student along
  with credits of the coarse");
for(int i=0;i<n;i++)
  {
    System.out.println(marks[i]+" "+credits[i]);
  }
  System.out.println("sgpa of student :"+total);
}
public static void main(String[] args){
  Scanner sc=new Scanner(System.in);
  Main obj=new main();
  System.out.println("enter numbes of coarses");
int n=sc.nextInt();
credits=new int[n];
marks=new double[n];
  obj.input(n);
double total=obj.calculate(n);
  obj.display(n,total);
}
}
```