Lab - 1

```
import java.util.*;

public class main {

public static void main (String [] args)
{
 Scanner sc = new Scanner (System.in);
 int a,b,c;
 double D, r1, r2;
 system.out.println (" Enter the values of a,b and c ");
   a = sc.nextInt();
   b = sc.nextInt();
   c = sc.nextInt();
   D = (b*b) - (4*a*c);
   if (D==0)
   {
   System.out.println("\n Roots are equal and equal");
     r1 = r2 = D/2a;
   System.out.println("\n" +r1+" "+r2);
}
```

```
}
else if (D>0)
 {
  System.out.println("\n Roots are real and distinct");
     r1 = (-b + Math.sqrt(D));
     r2 = (-b - Math.Sqrt(D));
   System.out.println (r1+" "+r2);
}
```

```
else
 {
   System.out.println("\n Roots does not exist");
 }
}
}
```

2)

Lab-2

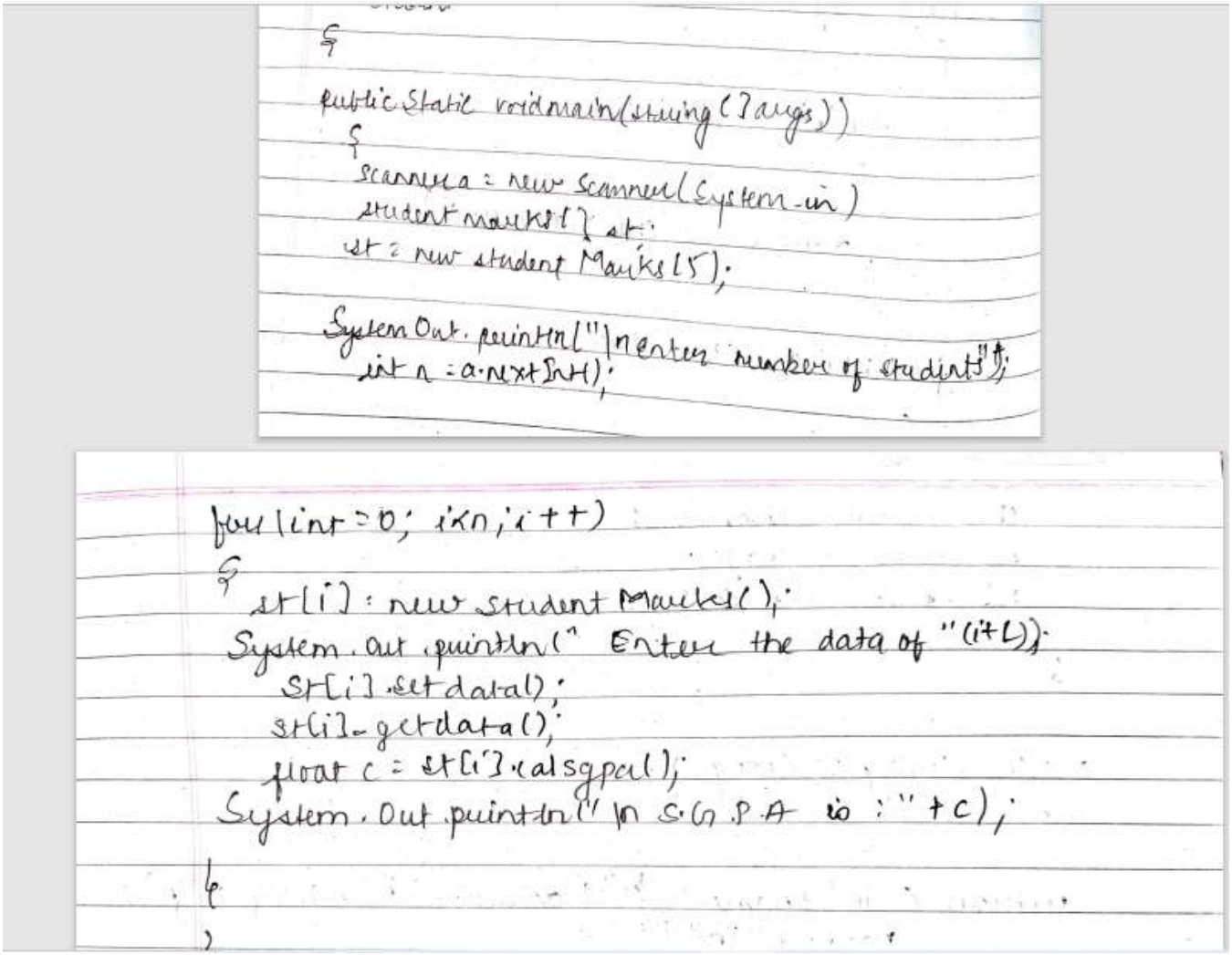
```
import java.util.*
class studentMarks
{
Scanner sc = new Scanner(System.in);
float[] credt = new float[5];
float [] mark = new float[5];
float[] sgpas = new float[5];
float sum = 0, c;
int usn;
float sgpa;
String name;
Void setdata()
{
System.out.println("Enter Student's name");
name = sc.nextLine();
System.out.println("\n Enter the USN");
usn = sc.nextInt();
System.out.println("\n Enter the marks obtained
by the student in each five subjects");
```

```
for(int i=0; i<5; i++)
{
  marks[i] = sc.NextFloat();
  if(marks[i] >=90 && marks[i] <=100)
  {
    sgpas[i] =10;
  }
  else if (marks[i] >=80 && marks[i] <90)
  {
    sgpas[i]=9;
  }
  else if (marks[i] >=70 && marks[i] <80)
  {
    sgpas[i]=8;
  }
  else if (marks[i] >=60 && marks[i] <70)
  {
    sgpas[i]:7;
  }
  else if (marks[i] >=50 && marks[i] <60)
  {
    sgpas[i]=6;
  }
```

```
else if (marks[i] >= 40 && marks[i] <50)
    {
        sgpas[i] = 5;
    }
else
    sgpas[i] = 0;
}
System.out.println("Enter the credits in each subject");
for(int i = 0; i<5; i++)
{
  credits[i] = sc.nextFloat();
}
}
float calcgpa()
{
  {
  for(int i = 0; i<5; i++)
    {
      sum = sum + (sgpas[i] * credit[i]);
```

```
for(int i=0; i<8; i++)
{
  c: c+credit[i]*1;
}
  sgpa: sum/c;
  return sgpa;
}
Void getdata1();
{
System.out.println("\n details of student: \n");
"  "  "  ("Name:"+name);
"  "  "  ("\n USN"+usn);

for(int i=0; i<5; i++)
{
System.out.println(marks[i]+" ");
}
}
```



```
{

public static void main(String[] args))
 {
 Scanner a = new Scanner(System.in)
 student marks[] st;
 st = new student Marks[5];

System Out. println["] enter number of students"};
 int n = a.NextInt();

for(int=0; i<n; i++)
{
 st[i] = new student Marks();
System.out.println(" Enter the data of "(i+1));
   st[i].setdata();
   st[i]-getdata();
   float c = st[i].calsgpa();
System.Out.println(" in S.G.P.A is : " + c);

}
}
```

3)

Lab-3

```
import java.util.*;

class bookdet
{
String name,aname;
float price;
int pages;
Scanner sc = new Scanner(System.in);

void bookdet(String name, String aname, float price,
             int pages)
{
    this.name = name;
```

```
        this.aname = aname;
        this.page = page;
        this.price = price;
    }

    public String toString()
    {
    return ("\n" +name + "\t" + aname + "\t" + price + "\t" +
            pages + "\n");
    }
}

public class Book {

public static void main (String args[]).
    {
    book det[] b = new bookdet[10];
    Scanner sc = new Scanner( System.in);
    System.out.println("\nEnter no. of books");
    int n = sc.nextInt();
    for(int i=0; i<n; i++)
    {
        System.out.println("Enter the name:").
```

```
System.out.println("Enter the price");
float price = sc.nextFloat();
System.out.println("Enter total pages");
int pages = sc.nextInt();

with pages b[i] = new bookdet();
        b[i].bookdet(name, aname, price, pages);

}
for(int i=0; i<n; i++)
{
System.out.println("Details of book" + (i+1));
System.out.println(b[i]);
}
}
}
```

4)

Lab 4

```
import java.util.*;

abstract class shape
{
Scanner cc : new Scanner (System.in);
int a : 6, b : 4;

abstract void print_area();

}

class rectangle extends shape{

public int rect_area;
void rectangle()
{
  System.out.println("Area of rectangle");
}
```

```
void printarea()
{
 rect area = a*b;
System.out.println("\n The area of rectangle is "+" + rectarea);
}
}

class triangle extends shape{
 double tri_area;
```

```
void print_area()
   {
     tri_area = (0.5 * a * b);
   System.out.println("\n The area of triangle is"+" + tri_area);
   }
```

```
Class to circle extends shape {
    double ci_area;
    void print_area()
    {
        ci_area = (3.14*a*a);
        System.out.println("\n The area of circle is : " +
                ci_area);
    }
}

class Main
{
    Scanner sc = new Scanner (System.in);
    public static void main (String[] args)
    {
        rectangle r = new rectangle();
        scanner sc = new Scanner (System.in);
    public static void main (String[] args)
    {
        rectangle r = new rectangle();
        r.print area();
        triangle t = new triangle();
        t.print_area();
        circle c = new circle();
        c.print_area();
    }
}
```

5)

```
import java.util.*;
abstract class account
{
  String name;
  String acc-no;
  String type;
  double balance;

account (String n, String a, String t, double b)
  {
    name = n;
    acc-no = a;
    type = t;
    balance = b;
  }

  abstract void deposit();
  abstract void display();
  abstract void withdrawal();
  abstract void fine();
  abstract void interest();
}

Class curr_acc extends account
{
```

```
curr_acc (String n, String a, String t, double b).
{
  super (n, a, t, b);
}
```

```
void pric()
{
  if (balance <500)
  {
  System.out.println("You will be fined 200 Rs
because min balance should be 500);
  display();
  }

else
  {
  System.out.println("You will not be charged fin
  }
}
void display();
{
  System.out.println("Name of Alcholder" +Name).
```

```
}
void display();
{
  System.out.println("Name of A/c holder" +name);
  System.out.println("A/c no." +acc no);
  "    "    "    ("Type" +type;
  "    "    "    ("Balance:" +balance);
}
void deposit()
{
double sum;
Scanner sc: new Scanner (System.in);
System.out.println("Enter Amount:");
sum = sc.nextDouble();
balance = balance +sum;
display();
```

```
void withdraw()
{
double sum;
```

```
Scanner sc = new Scanner(System.in);
System.out.println("Enter the amount to withdraw");
Scanner sc = next Double();
balance balance -= sum;
if (balance >= 1000)
                500)
{
}
    display();
}
else
{
System.out.println("You cannot withdraw");
    fine();
}
}
void enter()
{
    System.out.println("No Interest");
```

```
class SAV_Account extends Account
{
SAV_acc (string n, string a, string t, double b)
    {
      super (n, a, t, b);
    }
void display()
{
System.out.println("Name of a/c holder", name);
System.out.println("A/c no.:", acc_no);
System.out.println("Type:" +type);
System.out.println("Balance " + balance);
}
Void withdrawl()
{
double sum;
Scanner sc = new Scanner (System.in);
System.out.println("Enter the amt");
double sum = sc.nextDouble();
balance = balance - sum;
display();
}
```

```
void deposit()
{
 int sum;
 Scanner sc = new scanner(System.in);
 System.Out.println(" Enter principal to deposit");
 sum : sc.nextInt();
 balance += sum;
 display();
}
void interest()
{
double r,t;
double interest, amount, power;
Scanner sc = new Scanner (System.in);
System.out.println" Enter rate of interest");
  r = sc.nextDouble();
System.out.println("Enter time");
t = sc.nextDouble();

power = Math.pow( 1+ ((r)/100)), t);
amount : bal * power;
System.out.println (" Interest : "+interest);
display();
}
```

```
class test1{
{
public static void main(String args[]).
{
account a;
Scanner sc = new Scanner(System.in);
String name, acc_num, typ;
int option
double bal;
System.out.println("Enter the name");
name = sc.next();
System.out.println("Enter A/c no");
acc_num = sc.next();
type
System.out.println("Enter the minimum balance in A/c");
bal = sc.nextDouble();
System.out.println("1: Current Account");
"          ("2: Saving A/c");
"          ("3: Exit");
"          ("Enter choice");
option = sc.nextInt();

switch(option)
{
case1:
```

```
System.out.println("2:Deposit");
"  "  "  ("3:withdraw");
"  "  "  ("4:exit");
"  "  "  ("enter your choice");
counter = k.nextInt();
switch (counter)
{
case 1:
   a.fine();
   break();
}
Case 2:
{ a.deposit()
   break;
}
Case 3:
    a.withdraw();
    break;
Case 4:
   System.exit(statusD);
   break;
}
} while (counter != 4);
break;
```

```
int ch;
do
{
  System.out.println("1: deposit");
  "  "  "  ("2: withdraw");
  "  "  "  ("3: interest");
  "  "  "  ("4: exit");
  "  "  "  ("Enter");
  ch = next.int();
  switch (ch)
  {
  case 1:
      a.deposit();
      break;

  case 2:
      a.withdraw();
      break;
  case 3:
      a.inter();
  case 4:
     a.System.exit(status:0);
```

```
chr = next.int();
switch (chr)
{
case 1:
    a.deposit();
    break;

case 2:
    a.withdraw();
    break;
case 3:
    a.inter();
case 4:
    a.System.exit(status:0);
    break;
}
} while (chr!=4);
break;

case 3:
    System.exit(status:0);
    break;
}
```