**Quadratic Equation**

import java.util.Scanner;

class Quadratic

{

public static void main(String args[])

{

Scanner s1=new Scanner(System.in);

System.out.println("enter the coefficients");

double a=s1.nextInt();

double b=s1.nextInt();

double c=s1.nextInt();

double discriminant=b\*b-4\*a\*c;

if(discriminant<0)

{

System.out.println("No real solutions");

}

else if(discriminant==0)

{

double root= -b/(2\*a);

System.out.println("the equation has one real solution: "+root);

}

else

{

double root1=(-b + Math.sqrt(discriminant))/(2\*a);

double root2=(-b - Math.sqrt(discriminant))/(2\*a);

System.out.println("the equation has two real solutions: " +root1+ "and" +root2);

}

}

}

**Book Program**

import java.util.Scanner;

class BookDemo

{

String name;

String author;

double price;

int num\_pages;

Scanner s1=new Scanner(System.in);

BookDemo(){}

BookDemo(String name,String author,double price,int num\_pages)

{

this.name=name;

this.author=author;

this.price=price;

this.num\_pages=num\_pages;

}

void AcceptDetails()

{

System.out.println("enter name");

name=s1.next();

System.out.println("enter author");

author=s1.next();

System.out.println("enter price");

price=s1.nextInt();

System.out.println("enter number of pages");

num\_pages=s1.nextInt();

}

public String toString()

{

return ("Book Details: \n name: " + name + "\nauthor: " + author + "\nprice:" + price + "\nnumber of pages: " + num\_pages);

}

}

class book

{

public static void main(String args [])

{

Scanner s1=new Scanner(System.in);

System.out.println("enter the number of books");

int n=s1.nextInt();

BookDemo b[]=new BookDemo[n];

for(int i=0;i>=n;i++)

{

b[i]=new BookDemo();

b[i].AcceptDetails();

}

System.out.println("Details of books:");

for(int i=0;i<n;i++)

{

System.out.println(b[i]);

}

}

}

**SGPA Program**

import java.util.Scanner;

class Student

{

string usn;

string name;

int credits[];

int marks[];

public void AcceptDetails()

{

Scanner s1=new Scanner(System.in);

System.out.println("Enter USN: ");

usn=s1.nextString();

System.out.println("Enter name");

name=s1.nextString();

credits=new int[5];

marks=new int[5];

for(int i=0;i<5;i++)

{

System.out.println("Enter credits for subjects %d",i+1);

credits[i]=s1.nextInt();

}

}

public void DisplayDetails()

{

System.out.println("USN:" + usn);

System.out.println("Name:" + name);

for(int credit:credits)

{

System.out.println(credit);

}

System.out.println("\nMarks:");

for(int mark:marks)

{

System.out.println(mark);

}

}

public void Sgpa()

{

int total\_credits=0;

int total\_Gradepoints=0;

for(int i=0;i<=5;i++)

{

total\_credits+=credits[i];

if(marks[i]>=90)

{

total\_Gradepoints=10\*credits[i];

}

else if(marks[i]>=75)

{

total\_Gradepoints=9\*credits[i];

}

else if(marks[i]>=60)

{

total\_Gradepoints=8\*credits[i];

}

else if(marks[i]>=50)

{

total\_Gradepoints=7\*credits[i];

}

else if(marks[i]>=40)

{

total\_Gradepoints=6\*credits[i];

}

else

{

total\_Gradepoints=0;

}

}

return total\_Gradepoints/total\_credits;

}

}

class StudentDemo

{

public static void main(String args[])

Student s1=new Student();

s1.AcceptDetails();

System.out.println("\nStudent Details:");

s1.DisplayDetails();

float sgpa=s1.Sgpa();

System.out.println("SGPA:" %f,sgpa);

}

}

**Area Program**

import java.util.Scanner;

abstract class Shape

{

public abstract void printArea();

}

class Rectangle extends Shape

{

private int length;

private int breadth;

public Rectangle(int length, int breadth)

{

this.length=length;

this.breadth=breadth;

}

public void printArea()

{

int area=length\*breadth;

System.out.println("area of rectangle: " +area);

}

}

class Triangle extends Shape

{

private int base;

private int height;

public Triangle(int base, int height)

{

this.base=base;

this.height=height;

}

public void printArea()

{

double area=0.5\*base\*height;

System.out.println("the area of Triangle: " +area);

}

}

class Circle extends Shape

{

private int radius;

public Circle(int radius)

{

this.radius=radius;

}

public void printArea()

{

double area=Math.PI\*radius\*radius;

System.out.println("Area of Circle: " + area);

}

}

class Area

{

public static void main(String args[])

{

Scanner s1=new Scanner(System.in);

System.out.println("enter the length and breadth of the rectangle:");

int length=s1.nextInt();

int breadth=s1.nextInt();

Rectangle r1=new Rectangle(length,breadth);

System.out.println("enter the base and height of the triangle:");

int base=s1.nextInt();

int height=s1.nextInt();

Triangle t1=new Triangle(base,height);

System.out.println("enter the radius of the circle:");

int radius=s1.nextInt();

Circle c1=new Circle(radius);

r1.printArea();

t1.printArea();

c1.printArea();

}

}

**Son Father Inheritance Program**

import java.util.Scanner;

class WrongAge extends Exception

{

WrongAge(String message)

{

super (message);

}

}

class Father

{

private int age;

Father(int age) throws WrongAge

{

if(age<0)

{

throw new WrongAge("Age cannot be negative");

}

this.age=age;

}

int getAge()

{

return age;

}

}

class Son extends Father

{

private int sonAge;

Son(int fatherAge,int sonAge) throws WrongAge

{

super(fatherAge);

if(sonAge>=fatherAge)

{

throw new WrongAge("Son's age should be less than father's age");

}

this.sonAge=sonAge;

}

int getSonAge()

{

return sonAge;

}

}

class SonFather

{

public static void main(String args[])

{

Scanner s1=new Scanner(System.in);

try

{

System.out.println("enter father's age");

int fatherAge=s1.nextInt();

System.out.println("enter son's age");

int sonAge=s1.nextInt();

Son son=new Son(fatherAge,sonAge);

System.out.println("Father's age:" +son.getAge());

System.out.println("Son's age:" +son.getSonAge());

} catch(WrongAge e) {

System.out.println("Exception:" +e.getMessage());

} finally {

s1.close();

}

}

}

**Package Program**

package CIE;

public class Student

{

protected String usn,name;

protected int sem;

}

package CIE;

import CIE.Student;

public class Internals extends Student

{

protected int[] internalMarks=new int[5];

}

package SEE;

import CIE.Student;

class External extends Student

{

int[] seeMarks=new int[5];

}

import CIE.Internals;

import SEE.External;

class MarksDeclaration

{

public static void main(String args[])

{

int n=5;

Internals[] cieStudents=new Internals[n];

External[] seeStudents=new External[n];

for(int i=0;i<n;i++)

{

cieStudents[i]=new Internals();

}

for(int i=0;i<n;i++)

{

seeStudents[i]=new External();

}

}

}

**Threads Program**

class BMSThread extends Thread

{

public void run()

{

while(true)

{

System.out.println("BMS college of engineering");

try

{

Thread.sleep(10000);

}

catch(InterruptedException e)

{

e.printStackTrace();

}

}

}

}

class CSEThread extends Thread

{

public void run()

{

while(true)

{

System.out.println("CSE");

try

{

Thread.sleep(2000);

}

catch(InterruptedException e)

{

e.printStackTrace();

}

}

}

}

class ThreadDemo

{

public static void main(String args[])

{

BMSThread bmsthread=new BMSThread();

CSEThread csethread=new CSEThread();

bmsthread.start();

csethread.start();

}

}

**Bank Program**

class CanaraBank{  
String customername;  
String accountnumber;  
String type;  
double balance;  
CanaraBank(String customername,String accountnumber,String type){  
this.customername=customername;  
this.accountnumber=accountnumber;  
this.type=type;  
}  
void minimumBalance(){  
if (this.balance<1000){  
System.out.println("You do not fllow rules of minimum balance so 20 rupees is deducted");  
balance=balance-20;  
}  
}  
}  
  
class SavingsAccount extends CanaraBank{  
double moneyin;  
double interest;  
double depositperiod;  
SavingsAccount(String customername,String accountnumber,String type,double moneyin,double interest,double  
  
depositperiod){  
super(customername,accountnumber,type);  
this.moneyin=moneyin;  
this.interest=interest;  
this.depositperiod=depositperiod;  
}  
void displayBalance(){  
balance = moneyin\*(1+depositperiod\*interest);  
System.out.println("The amount in bank after "+ depositperiod + "is "+ balance);  
}  
void withdraw(Double with){  
balance = balance-with;  
this.minimumBalance();  
System.out.println("The amounjt left in bank savings account is "+balance);  
}  
void deposit(){  
System.out.println("ENter the amount you wqant to deposit");  
double deposit;  
Scanner s1 =new Scanner(System.in);  
deposit=s1.nextDouble();  
balance = balance + deposit;  
this.minimumBalance();  
System.out.println("The amount in bank savings account is "+balance);  
}  
}  
class CurrentAccount extends CanaraBank{  
double moneyin;  
CurrentAccount(String customername,String accountnumber,String type,double moneyin){  
super(customername,accountnumber,type);  
this.moneyin=moneyin;  
balance=moneyin;  
this.minimumBalance();  
}  
void CheckFacilities(){  
System.out.println("This account has Check facilities");  
}  
void depositThroughCheck(int money){  
balance = balance+money;  
this.minimumBalance();  
System.out.println("The new balance is "+balance);  
}  
void displayBalance(){  
System.out.println("The amount in bank in"+this.type +" account after " + "is "+ this.balance);  
}  
}  
  
class Bank {  
public static void main(String args[]){  
SavingsAccount A = new SavingsAccount("Navaneeth","1000","Savings",900,0.1,1);  
A.displayBalance();  
A.withdraw(20.000);  
A.deposit();  
  
CurrentAccount B = new CurrentAccount("Monish","1001","Current",1700);  
B.CheckFacilities();  
B.depositThroughCheck(500);  
B.displayBalance();  
  
}  
}