Week 1:

import java.util.Scanner;

class Book

{

    String name=new String();

    String author=new String();

    int price,num\_pages;

    Scanner S1=new Scanner(System.in);

    Book()

    {

        name=" ";

        author=" ";

        price=0;

        num\_pages=0;

    }

    Book(String n, String a, int p, int no)

    {

        name=n;

        author=a;

        price=p;

        num\_pages=no;

    }

    void accept()

    {

        System.out.println("Enter name,author,price and number of pages of book");

        name=S1.next();

        author=S1.next();

        price=S1.nextInt();

        num\_pages=S1.nextInt();

    }

    void display()

    {

        System.out.println("\nName:"+name+"\nAuthor:"+author+"\nPrice:"+price+"\nNumber of Pages:"+num\_pages);

    }}

class BMain

{

    public static void main(String[] args)

    {

        Book b1=new Book();

        b1.accept();

        b1.display();

        Book b2=new Book("The Hunger Games","Suzanne Collins",300,456);

        b2.display();

    }

}

Week 2:

import java.util.Scanner;

class Student

{

    String name, usn;

    int credits[]=new int[8];

    int marks[]=new int[8];

    int grade[]=new int[8];

    int sgpa=0,totalcred=0;

    Scanner S1=new Scanner(System.in);

    void accept()

    {

        System.out.println("Enter name and usn of student");

        name=S1.next();

        usn=S1.next();

        System.out.println("Enter marks of 8 courses");

        for(int i=0;i<8;i++)

         {   marks[i]=S1.nextInt();}

        System.out.println("Enter credits of 8 courses");

        for(int i=0;i<8;i++)

         {   credits[i]=S1.nextInt();

         }

    }

    void display()

    {

        System.out.println("Name:"+name+"\nUSN:"+usn+"\nSGPA:"+sgpa);

    }

    void calc()

    {

        for(int i=0;i<8;i++)

        {

            if(marks[i]>=90)

             {   grade[i]=10;}

            else if(marks[i]>=80)

            {    grade[i]=9;}

            else if(marks[i]>=70)

             {   grade[i]=8;}

            else if(marks[i]>=60)

             {   grade[i]=7;}

            else if(marks[i]>=50)

             {   grade[i]=6;}

            else if(marks[i]>=40)

             {   grade[i]=5;}

            else if(marks[i]>=30)

             {   grade[i]=4;}

            else if(marks[i]>=20)

              {  grade[i]=3;}

            else if(marks[i]>=10)

             {   grade[i]=2;}

            else if(marks[i]<10)

            {    grade[i]=1;}

            else

             {   grade[i]=0;}

            sgpa+=grade[i]\*credits[i];

            totalcred+=credits[i];

        }

        sgpa/=totalcred;

    }

}

class SMain

{

    public static void main(String[] args)

    {

        Student stud1=new Student();

        stud1.accept();

        stud1.calc();

        stud1.display();

    }

}

Week 3:

import java.util.Scanner;

abstract class Shape

{

    void printArea()

    {

    }

    int a,b;

}

class Rectangle extends Shape

{

    void printArea()

    {

        System.out.println("Area of rectangle="+(a\*b));

    }

}

class Triangle extends Shape

{

    void printArea()

    {

        System.out.println("Area of triangle="+(0.5\*a\*b));

    }

}

class Circle extends Shape

{

    void printArea()

    {

        System.out.println("Area of circle="+(3.146\*a\*a));

    }

}

class SMain

{

    public static void main(String[] args)

    {

        Scanner S1=new Scanner(System.in);

        System.out.println("Enter number of objects:");

        int n=S1.nextInt();

        for(int i=0;i<n;i++)

        {

        System.out.println("Enter 1 for Rectangle, 2 for Triangle and 3 for Circle\n");

        int ch=S1.nextInt();

        switch(ch)

        {

            case 2:

                System.out.println("Enter values of base and height");

                Triangle t1=new Triangle();

                t1.a=S1.nextInt();

                t1.b=S1.nextInt();

                t1.printArea();

            break;

            case 1:

                System.out.println("Enter values of length and breadth");

                Rectangle r1=new Rectangle();

                r1.a=S1.nextInt();

                r1.b=S1.nextInt();

                r1.printArea();

            break;

            case 3:

                System.out.println("Enter value of radius");

                Circle c1=new Circle();

                c1.a=S1.nextInt();

                c1.printArea();

            break;

            default:

                System.out.println("Please enter a proper value");

            break;

        }

    }

}

}

Week 4:

class WrongAgeException extends Exception {

    WrongAgeException(String message) {

        super(message);

    }

}

class Father {

    private int age;

    public Father(int age) throws WrongAgeException {

        if (age < 0) {

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

        }

        this.age = age;

    }

    public int getAge() {

        return age;

    }

}

class Son extends Father {

    private int sonAge;

    public Son(int fatherAge, int sonAge) throws WrongAgeException {

        super(fatherAge);

        if (sonAge >= fatherAge) {

            throw new WrongAgeException("Son's age should be less than Father's age");

        }

        this.sonAge = sonAge;

    }

    public int getSonAge() {

        return sonAge;

    }

}

class Main {

    public static void main(String[] args) {

        try {

            Father father = new Father(45);

            Son son = new Son(father.getAge(), 20);

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

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

        } catch (WrongAgeException e) {

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

        }

    }

}

Week 5:

import java.util.Scanner;

package CIE;

public class student

{

    Scanner S1=new Scanner(System.in);

    public String usn,name;

    public int sem;

    System.out.println("Enter usn,name and sem")

    usn=S1.next();

    name=S1.next();

    sem=S1.nextInt();

}

public class internals

{

    Scanner S2=new Scanner(System.in);

    public int imarks[]=new Int[5];

    System.out.println("Enter internals marks")

    for(int i=0;i<5;i++)

        imarks[i]=S2.nextInt();

}

package SEE;

public class external extends student

{

    Scanner S3=new Scanner(System.in);

    public int smarks[]=new Int[5];

    System.out.println("Enter externals marks")

    for(int i=0;i<5;i++)

        smarks[i]=S3.nextInt();

}

import java.CIE.\*;

import java.SEE.\*;

class SMain

{

    public static void main(String args[])

    {

        student s=new student();

        internals i=new internals();

        external e=new external();

        for(int i=0;i<5;i++)

            System.out.println("\n"+(i.imarks[i]+e.smarks[i]));

    }

}

Week 6:

import java.util.Scanner;

class account

{

    String name,type;

    int accno;

    double balance;

    account(String name, int accno, String type,double balance)

    {

        this.name=name;

        this.accno=accno;

        this.type=type;

        this.balance=balance;

    }

    void deposit(double amount)

    {

        balance+=amount;

    }

    void withdraw(double amount)

    {

        if((balance-amount)>=0)

        {balance-=amount;}

        else

        {System.out.println("Insufficient balance");}

    }

    void display()

    {

        System.out.println("Name:"+name+"\nAcc no:"+accno+"\nType:"+type+"\nBalance:"+balance);

    }

}

class savAcct extends account

{

    private static double rate=5;

    savAcct(String name, int accno,double balance)

    {super(name,accno,"savings",balance);}

    void interest()

    {balance+=balance\*(rate)/100;

    System.out.println("Balance:"+balance);}

}

class curAcc extends account

{

    private double minBal=500;

    private double serviceCharges=50;

    curAcct(String name,int accno,double balance)

    {super(name,accno,"current",balance);}

    void checkmin()

    {

        if(balance<minBal)

        {System.out.println("Balance less than min, service charges imposed:"+service charges);

        balance-=serviceCharges;

        System.out.println("Balance:"+balance);}

    }

}

class accountMain

{

    public static void main(String args[])

    {

        Scanner s=new Scanner(System.in);

        System.out.println("Enter name,type, account no and initial balance");

        String name=s.next();

        String type=s.next();

        int accno=s.nextInt();

        double balance=s.nextDouble();

        int ch;

        double amount1,amount2;

        account acc=new account(name,accno,type,balance);

        savAcct sa=new savAcct(name,accno,balance);

        curAcct ca=new curAcct(name,accno,balance);

        while(true)

        {

            if(acc.type.equals("savings"))

            {

                System.out.println("\n1.Deposit\n2.Withdraw\n3.Compute interest\n4.Display");

                ch=s.nextInt();

                switch(ch)

                {

                    case 1: System.out.println("Enter amount");

                    amount1=s.nextInt();

                    sa.deposit(amount1);

                    break;

                    case 2: System.out.println("Enter amount");

                    amount2=s.nextInt();

                    sa.withdraw(amount2);

                    break;

                    case 3: sa.interest(); break;

                    case 4: sa.display(); break;

                    case 5: SYstem.exit(0); break;

                    default: System.out.println("Wrong input"); break;

                }

            }

            else

            {

                System.out.println("\n1.Deposit\n2.Withdraw\n3.Display");

                ch=s.nextInt();

                switch(ch)

                {

                    case 1: System.out.println("Enter amount");

                    amount1=s.nextInt();

                    ca.deposit(amount1);

                    break;

                    case 2: System.out.println("Enter amount");

                    amount2=s.nextInt();

                    ca.withdraw(amount2);

                    break;

                    case 3: ca.display(); break;

                    case 4: SYstem.exit(0); break;

                    default: System.out.println("Wrong input"); break;

                }

            }

        }

    }

}