package myPack;

public class Engineer{

private String name;

private int age;

private String degree;

private double basic;

public Engineer(String n,int a,String d,double b){

this.name=n;

this.age=a;

this.degree=d;

this.basic=b;

}

public String getName(){ return name;}

public int getAge(){ return age;}

public String getDegree(){ return degree;}

public double getBasic(){ return basic;}

}

package myPack;

public class InvalidBasicException extends Exception{

public String toString(){

return "InvalidBasicException: ";

}

}

import myPack.\*;

public class Technician extends Engineer{

private String skill;

public Technician(String n,int a,String d,double b,String s) throws myPack.InvalidBasicException{

super(n,a,d,b);

if(b<5000.0||b>30000.0){

throw new myPack.InvalidBasicException();

}

else

this.skill=s;

}

public String getSkill(){return skill;}

public double calSalary(){

double sal=0;

double b=super.getBasic();

sal=(b+(0.6\*b)+(0.1\*b)-(0.4\*b));

return sal;

}

}

import myPack.\*;

public class Clerk extends myPack.Engineer{

private double speed;

public Clerk(String n,int a,String d,double b,double s) throws myPack.InvalidBasicException{

super(n,a,d,b);

if(b<5000.0||b>30000.0){

throw new myPack.InvalidBasicException();

}

else{

this.speed=s;

}

}

public double getSpeed(){ return speed; }

public double calSalary(){

double sal=0;

double b=super.getBasic();

sal=(b+(0.5\*b)+(0.05\*b)-(0.4\*b));

return sal;

}

}

import java.util.\*;

import myPack.\*;

public class Test{

public static void main(String args[]){

Scanner in=new Scanner(System.in);

String name,degree,skill;

int age;

double basic,speed;

do{

System.out.println("\nEnter Technician's details ");

System.out.print("\nEnter the name : ");name=in.nextLine();

System.out.print("\nEnter the age : ");age=in.nextInt();

in.nextLine();

System.out.print("\nEnter the degree : ");degree=in.nextLine();

System.out.print("\nEnter the basic pay : ");basic=in.nextDouble();

in.nextLine();

System.out.print("\nEnter the skill : ");skill=in.nextLine();

try{

if(basic<5000.0||basic>30000.0)

throw new myPack.InvalidBasicException();

Technician t=new Technician(name,age,degree,basic,skill);

System.out.println("\n Technician's details ");

System.out.println("Name: "+t.getName());

System.out.println("Age: "+t.getAge());

System.out.println("Degree: "+t.getDegree());

System.out.println("Skill: "+t.getSkill());

System.out.println("Salary: "+t.calSalary());

}

catch(myPack.InvalidBasicException ibe){

if(basic<5000){

System.out.println(ibe.toString() +"Basic pay below 5000");

System.out.println("Please re-enter details");

}

else{

System.out.println(ibe.toString() +"Basic pay above 30000");

System.out.println("Please re-enter details");

}

}

}while(basic<5000||basic>30000);

do{

System.out.println("\nEnter Clerk's details ");

in.nextLine();

System.out.print("\nEnter the name : ");name=in.nextLine();

System.out.print("\nEnter the age : ");age=in.nextInt();

in.nextLine();

System.out.print("\nEnter the degree : ");degree=in.nextLine();

System.out.print("\nEnter the basic pay : ");basic=in.nextDouble();

System.out.print("\nEnter the typing speed : ");speed=in.nextDouble();

try{

if(basic<5000.0||basic>30000.0)

throw new myPack.InvalidBasicException();

Clerk c=new Clerk(name,age,degree,basic,speed);

System.out.println("\n Clerk's details ");

System.out.println("Name: "+c.getName());

System.out.println("Age: "+c.getAge());

System.out.println("Degree: "+c.getDegree());

System.out.println("Typing speed: "+c.getSpeed());

System.out.println("Salary: "+c.calSalary());

}

catch(myPack.InvalidBasicException ibe){

if(basic<5000){

System.out.println(ibe.toString() +"Basic pay below 5000");

System.out.println("Please re-enter details");

}

else{

System.out.println(ibe.toString() +"Basic pay above 30000");

System.out.println("Please re-enter details");

}

}

}while(basic<5000||basic>30000);

}

}

**Output:**

Enter Technician's details

Enter the name : Shiva

Enter the age : 18

Enter the degree : BE

Enter the basic pay : 1000

Enter the skill : Skill

InvalidBasicException: Basic pay below 5000

Please re-enter details

Enter Technician's details

Enter the name : Shiva

Enter the age : 18

Enter the degree : BE

Enter the basic pay : 50000

Enter the skill : Skill

InvalidBasicException: Basic pay above 30000

Please re-enter details

Enter Technician's details

Enter the name : Shiva

Enter the age : 18

Enter the degree : BE

Enter the basic pay : 20000

Enter the skill : Skill

Technician's details

Name: Shiva

Age: 18

Degree: BE

Skill: Skill

Salary: 26000.0

Enter Clerk's details

Enter the name : Sharvan

Enter the age : 19

Enter the degree : BE

Enter the basic pay : 4000

Enter the typing speed : 70

InvalidBasicException: Basic pay below 5000

Please re-enter details

Enter Clerk's details

Enter the name : Sharvan

Enter the age : 19

Enter the degree : BE

Enter the basic pay : 40000

Enter the typing speed : 70

InvalidBasicException: Basic pay above 30000

Please re-enter details

Enter Clerk's details

Enter the name : Sharvan

Enter the age : 19

Enter the degree : BE

Enter the basic pay : 25000

Enter the typing speed : 70

Clerk's details

Name:

Age: 19

Degree: BE

Typing speed: 70.0

Salary: 28750.0