**JAVA PROGRAMS**

**Submitted By**

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1.**create an abstract class name student. Inside the student class you maintain concrete method and abstract method.**

**Create a class called full-time and define the abstract methods**

**try to create an object method for students and refer to the full time object and access the abstract method**

**SOURCE CODE:**

import java.util.\*;

public class Library {

public static void main(String arg[])

{

int x;

System.out.println("Enter the choice as Faculty or a Student ?(1/0)");

Scanner sc = new Scanner(System.in);

x = sc.nextInt();

if(x == 1)

{

Faculty f = new Faculty();

int day;

System.out.println("Enter the current day(time lapsed)");

day = sc.nextInt();

int n = f.calculateRenewalTime(day);

if(n > 0)

{

System.out.println("There are " +n+ " more days for the renewal");

}

else

{

System.out.println("You are " +(n \* -1)+ " days late for the renewal");

}

n = f.amountCalculation(day);

System.out.println("The total cost to be paid is : " +n);

}

else

{

Student f = new Student();

int day;

System.out.println("Enter the current day(time lapsed)");

day = sc.nextInt();

int n = f.calculateRenewalTime(day);

if(n > 0)

{

System.out.println("There are " +n +" more days for the renewal");

}

else

{

System.out.println("You are " +(n \* -1)+ " days late for the renewal");

}

n = f.amountCalculation(day);

System.out.println("The total cost to be paid is : " +n);

}

}

}

interface LibraryMangement {

public int calculateRenewalTime(int currentDay);

public int amountCalculation(int currentDay);

}

class Student implements LibraryMangement{

public int calculateRenewalTime(int currentDay)

{

return 14 - currentDay;

}

public int amountCalculation(int currentDay)

{

if(currentDay > 14)

{

return (currentDay - 14) \* 15;

}

return 0;

}

}

class Faculty implements LibraryMangement {

public int calculateRenewalTime(int currentDay)

{

return 21 - currentDay;

}

public int amountCalculation(int currentDay)

{

if(currentDay > 21)

{

return (currentDay - 21) \* 5;

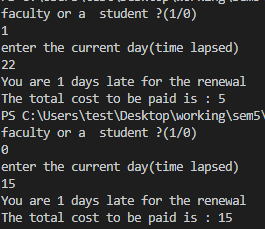
}

return 0;

}

}

OUTPUT:



2.create an interface for library application add atleast two interface methods for renewal of books and renewal day calculation and amount calculation create two classes as student and faculty. try to implement the interface methods in the classes.

CODE:

import java.util.Scanner;

public class FullTime extends Student {

public void enroll(String name, int rollno, int year){

this.rollno = rollno;

this.name = name;

this.year = year;

}

public void display(){

System.out.println("\n Student name : " + this.name);

System.out.println("Student rollno: " + this.rollno);

System.out.println("Student year: " + this.year);

}

public static void main(String args[]){

Scanner sc = new Scanner(System.in);

FullTime[] studs = new FullTime[10];

System.out.println("Enter no of students");

int no = sc.nextInt();

for(int i=0;i<no;i++){

System.out.println("\nEnter the name of the student " + (i+1));

String name = sc.next();

System.out.println("Enter the rollno of the student " + (i+1));

int rollno = sc.nextInt();

System.out.println("Enter the year of the student " + (i+1));

int year = sc.nextInt();

studs[i] = new FullTime();

studs[i].enroll(name, rollno, year);

}

System.out.println("\nThe student details are as follows");

for(int i=0;i<no;i++){

studs[i].display();

}

}

}

abstract class Student{

String name;

int rollno;

int year;

Student(){

name = "xxxx";

rollno = 0;

year = 0;

}

public String getname(){

return this.name;

}

public int getyear(){

return this.year;

}

public abstract void enroll(String name, int rollno, int year);

public abstract void display();

}

OUTPUT:

