University of Asia Pacific

Department of Computer Science & Engineering

Course Title: Object-Oriented Programming I: Java Lab.

Course Code: CSE 204

Project Name: UAP Inventory Management System.

Section: C1

Group: 02

<u>*Group Members:*</u>

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Explanation of the project:

An attempt to show how the below work is done in UAP management system through coding.

Firstly, we are gathering some information about a student for his/her admission, then if the information is likeable to us he/she gets admitted.

After the admission process is finally done and a student get admitted, they should attend the classes to get attendance. If the attendance is below 70%, he/she can not attend in the final exam.

Again, a student needs to deposit the full semester fee before the final exam starts, if the money is not deposited, the student cannot give the exam.

After the exam is finished, result is being published where the user can see the score of how much he/she got also, the waiver list for the student who got how much is thereby also attached according to their result.

Lastly we are able to see the student who have passed or failed in the exam. And those who were absents in the class.

System Requirements of the project :

Java version : **javaSE19**

IDE : **eclipse**

Code with explanation:

Total five class:

1. Student class
2. Result class
3. Information class
4. Info class
5. Main class

Code:

```java
package project;

import java.util.ArrayList;

public abstract class Student { //abstract class

String name;

int id;

double balance;

public boolean attendace;

String rresult;

double tk;

int at;

double extra;

//constructor

Student(String name,int id,double balance){

if(balance>=2150 ) {

this.name=name;

this.id=id;

this.balance=balance;

System.out.println("you are admited.");

extra = this.balance-2150;

System.out.println("Extra payment: "+(extra));

}

else {

System.out.println("you are not admited.");

}

}
```

```java
//paymentlist

public void deposit(double depAmount) {

tk = tk+(depAmount+extra);

}

public void midseat() {

if(tk>=40000 ) {

System.out.println("you have seat.");

}

else {

System.out.println("you have no seat!");

System.out.println("Due payment: "+(40000-tk));

}

}

public void finalseat() {

if(tk<85000 && at<70) {

System.out.println("you have no seat!");

System.out.println("Due payment: "+(85000-tk));

System.out.println("Not enough present: " + at+"%" + " ;below 70%");

}

else if(tk>=85000 && at>=70) {

System.out.println("you have seat.");

}

else if(tk>=85000 && at<70) {

System.out.println("you have no seat!");

System.out.println("Not enough present: " + at+"%" + " ;below 70%");

}
```

```java
else {

System.out.println("you have no seat!");

System.out.println("Due payment: "+(85000-tk));

}

}

String getname() {

return name;

}

//getter

int getid() {

return this.id;

}

//setter

void setid(int i) {

this.id=i;

}

public boolean getAttendace(int b){

at = b;

return attendace;

}

//Overloading

String getresult() {

return rresult;

}

String getresult(String a) {

rresult=a;
```

```java
        return rresult;

    }

    //abstract method

    abstract void calculateGrade(double percentage);

    //polymorphism

    void display2() {

    System.out.println("No message here.");

    }

    void dis1() {

    System.out.println("Name: " + this.name + "\nId: " + this.id + "\nattendance : " + at
    +"%"+"\n");

    }

    void dis() {

    System.out.println("Name: " + this.name + "\nId: " + this.id + "\nattendance : " + at +"%" +
    "\nResult : " +rresult);

    }

    @Override

    public String toString() {

    return "Name: " + this.name + "\nId: " + this.id + "\nattendance : " + at +"%" + "\nResult : "
    +rresult + "\nAdmit Fee: " + (this.balance-extra)+ "\nCouse Fee: " + this.tk+ "\nTotal
    Paymentlist : " + (this.balance+this.tk) + "\n" ;

    }

    void display() {

    System.out.println(toString());

    }

    }

    package project;

    import java.util.ArrayList;
```

```java
public class Result extends Student { //subclass

String rr;

String grade;

double point;

int waiver;

Result (String name,int id,double balance){

super(name,id,balance);

}

@Override
public void calculateGrade(double percentage) {

if (percentage == 4.00) {

point=percentage;

grade = "A+";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

getwaiver();

} else if (percentage >= 3.75) {

point=percentage;

grade = "A";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

getwaiver();

} else if (percentage >= 3.50) {

point=percentage;

grade = "A-";

System.out.println("CGPA:"+ point);
```

```java
System.out.println("Grade="+grade);

getwaiver();

} else if (percentage >= 3.25) {

point=percentage;

grade = "B+";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

} else if (percentage >= 3.00) {

point=percentage;

grade = "B";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

} else if (percentage >= 2.75) {

point=percentage;

grade = "B-";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

} else if (percentage >= 2.50) {

point=percentage;

grade = "C+";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

} else if (percentage >= 2.25) {

point=percentage;

grade = "C";

System.out.println("CGPA:"+ point);
```

```java
System.out.println("Grade="+grade);

} else if (percentage >= 2.00) {

point=percentage;

grade = "D";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

}
else {

point=percentage;

grade = "F";

System.out.println("CGPA:"+ point);

System.out.println("Grade="+grade);

}

}
void getwaiver() {

if (point == 4.00) {

waiver=100;

System.out.println("Waiver"+ waiver + "%");

}
else if (point >= 3.90) {

waiver=75;

System.out.println("Waiver"+ waiver + "%");

}
else if (point >= 3.75) {

waiver=50;

System.out.println("Waiver"+ waiver + "%");
```

```java
    }

    else if (point >= 3.50) {

    waiver=25;

    System.out.println("Waiver"+ waiver + "%");

    }

    else {

    waiver=0;

    System.out.println("Waiver"+ waiver + "%");

    }

    }

    @Override

    void display2() {

    System.out.println("CGPA: "+point+"\nGrade: "+grade + "\nWaiver: "+waiver+"%"+"\n");

    }

    }

    package project;

    public interface Information { //interface class

    public void cseinfo(); //interface method

    }

    package project;

    public class Info implements Information{ //interface subclass

    @Override

    public void cseinfo() {

    System.out.println("admission going on Spring 2023 semester\n"

    + "undergraduate programs: \n Architecture , BBA , CSE , EEE , LLB , B.Pharm\n"

    +"CSE info\n"
```

```java
            + "1 Credit-162\n"

            + "2 Total Semester-8\n"

            + "3 Application fees tk-1200\n"

            + "4 Admission fee tk-21,500\n"

            + "5 Convocation fee tk-6,000\n"

            + "6 English Language Proficiency Course fee tk-4,500\n"

            + "7 Per Semester Registration fee tk-40,000\n"

            + "8 Per Semester Tuition fee tk-45,000\n"

            + "7+8 Total Per Semester tk-85,000\n"

            + "8 Semester + Admission fee tk-7,13,200"

            + "SEMESTER GPA-TUITION FEE WAIVER\n"

            + "3.50 - 3.74 25%\n"

            + "3.75 - 3.89 50%\n"

            + "3.90 - 3.99 75%\n"

            + "4.00 100%");

    }

}

package project;

import java.util.ArrayList;

import java.util.Scanner;

public class Main {  //class

        public static void main(String[] args) {

                Scanner in = new Scanner(System.in);

                ArrayList<Student> array = new ArrayList<Student>();

                while(true){

                    System.out.println( "Enter your choice:");

                    System.out.println("1 - Information, 2 - Add new student, 3 - Give attendance,
4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11
- presentList, 12 - absentList,");
```

```java
int n = 0;
while(n == 0){
    String N = in.next();
    try{
        n = Integer.parseInt(N);
        if(n <= 0){
            throw new Exception();
        }
    } catch (NumberFormatException e){
        System.out.println("Please Enter a number");
    } catch (Exception e){
        System.out.println("Please Enter a positive number greater than 0");
    }
}


switch (n){
        case 1:
                B b=new B();
                b.cseinfo();
                break;


    case 2:
        System.out.println("Student name: ");
        String name = in.next();
        System.out.println("Student id: ");
        int id = in.nextInt();
        System.out.println("Admission fee '2150 tk': ");
        double balance=in.nextDouble();
        Result std = new Result (name, id,balance);
        array.add(std);
        break;


    case 3:
        System.out.println("Student id: ");
```

```java
                id = in.nextInt();

                System.out.println("present: ");

                int at = in.nextInt();

                for(Student s : array){

                    if(s.getid()==id){

                        s.attendace = true;

                        s.getAttendace(at);

                        break;

                    }

                }

                System.out.println("Attendance is given!");

                break;



        case 4:

                System.out.println("Student id: ");

                id = in.nextInt();

                System.out.println("fee: ");

                double tk = in.nextDouble();

                for(Student s : array){

                    if(s.getid()==id) {

                            s.deposit(tk);

                    }

                }

                break;

        case 5:

                System.out.println("Student id: ");

                id = in.nextInt();

                for(Student s : array){

                    if(s.getid()==id) {

                            s.midseat();

                        break;

                    }
```

```java
            }
        break;

case 6:
        System.out.println("Student id: ");
    id = in.nextInt();
    for(Student s : array){
        if(s.getid()==id) {
                s.finalseat();
            break;
        }
    }
        break;

case 7:
        System.out.println("Student id: ");
    id = in.nextInt();
    System.out.println("Student grade: ");
    double percentage=in.nextDouble();
    for(Student s : array){
        if(s.getid()==id) {
                s.calculateGrade(percentage);
                if(percentage>=2.00) {
                        s.rresult = "Pass";
                        System.out.println(s.getresult("Pass"));
                }
                else {
                        s.rresult = "Fail";
                        System.out.println(s.getresult("Fail"));
                }

            break;
        }
    }
```

```java
            break;

        case 8:
            for(Student s : array){
                if(s.rresult=="Pass") {
                    s.dis();
                    s.display2();
                }
            }
            break;

        case 9:

            for(Student s : array){
                if(s.rresult=="Fail") {
                    s.dis();
                    s.display2();
                }


            }
            break;


        case 10:
            System.out.println("Student id: ");
            id = in.nextInt();
            for(Student s : array){
                if(s.getid()==id) {
                    s.display();
                    s.display2();
                    break;
                }
```

```java
                }
                break;

            case 11:
                for(Student s : array){
                    if(s.attendace == true) {
                        s.dis1();


                    }
                }
                break;

            case 12:
                for(Student s : array){
                    if(s.attendace == false) {
                        s.dis1();
                    }
                }
                break;

            case 0:
                System.out.println("Exiting...");
                return;
            default:
                System.out.println("Invalid input");
        }
    }
}
}
```
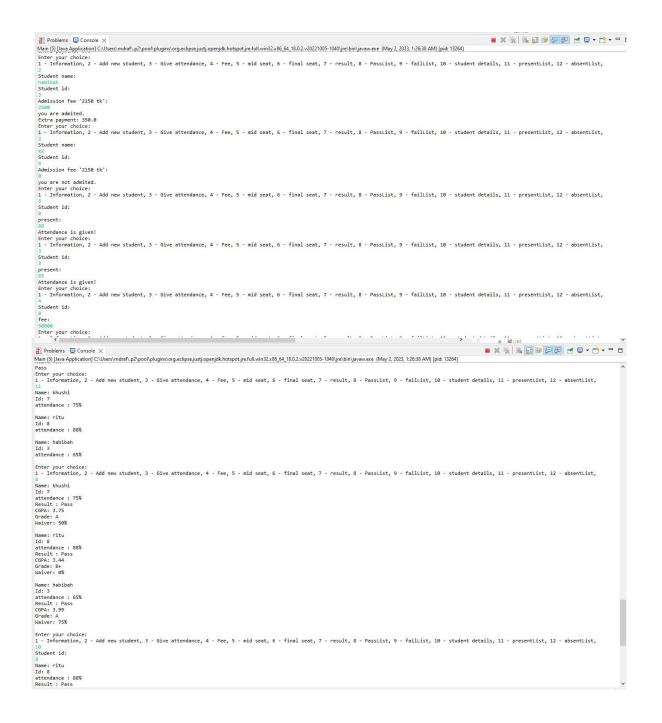
Input & Output:

```
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
1
admission going on Spring 2023 semester
undergraduate programs:
 Architecture , BBA , CSE , EEE , LLB , B.Pharm
CSE info
1 Credit-162
2 Total Semester-8
3 Application fees tk-1200
4 Admission fee tk-21,500
5 Convocation fee tk-6,000
6 English Language Proficiency Course fee tk-4,500
7 Per Semester Registration fee tk-40,000
8 Per Semester Tuition fee tk-45,000
7+8 Total Per Semester tk-85,000
8 Semester + Admission fee tk-7,13,200SEMESTER GPA-TUITION FEE WAIVER
3.50 - 3.74      25%
3.75 - 3.89      50%
3.90 - 3.99      75%
4.00  100%
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
2
Student name:
khushi
Student id:
7
Admission fee '2150 tk':
2250
you are admited.
Extra payment: 100.0
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
3
Student id:
7
present:
75
Attendance is given!
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
4
Student id:
7
fee:
40000
Enter your choice:
```

Problems ☐ Console ✕

Main (5) [Java Application] C:\Users\mdraf\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.0.2.v20221005-1040\jre\bin\javaw.exe (May 2, 2023, 1:26:38 AM) [pid: 13264]

```
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
5
Student id:
7
you have seat.
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
6
Student id:
7
you have no seat!
Due payment: 44900.0
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
4
Student id:
7
fee:
44900
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
6
Student id:
7
you have seat.
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
8
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
7
Student id:
7
Student grade:
3.75
CGPA:3.75
Grade=A
Waiver50%
Pass
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
8
Name: khushi
Id: 7
attendance : 75%
Result : Pass
CGPA: 3.75
Grade: A
Waiver: 50%

Enter your choice:
```

```
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
10
Student id:
7
Name: khushi
Id: 7
attendance : 75%
Result : Pass
Admit Fee: 2150.0
Couse Fee: 85100.0
Total Paymentlist : 87350.0

CGPA: 3.75
Grade: A
Waiver: 50%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
11
Name: khushi
Id: 7
attendance : 75%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
10
Student id:
7
Name: khushi
Id: 7
attendance : 75%
Result : Pass
Admit Fee: 2150.0
Couse Fee: 85100.0
Total Paymentlist : 87350.0

CGPA: 3.75
Grade: A
Waiver: 50%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
2
Student name:
ritu
Student id:
8
Admission fee '2150 tk':
2150
you are admited.
Extra payment: 0.0
Enter your choice:
```

Problems ⬛ Console ✕

Main (5) [Java Application] C:\Users\mdraf\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.0.2.v20221005-1040\jre\bin\javaw.exe (May 2, 2023, 1:26:38 AM) [pid: 13264]

```
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
2
Student name:
habibah
Student id:
3
Admission fee '2150 tk':
2500
you are admited.
Extra payment: 350.0
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
2
Student name:
kk
Student id:
9
Admission fee '2150 tk':
0
you are not admited.
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
3
Student id:
8
present:
88
Attendance is given!
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
3
Student id:
3
present:
65
Attendance is given!
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
4
Student id:
8
fee:
50000
Enter your choice:
```

Problems ⬛ Console ✕

Main (5) [Java Application] C:\Users\mdraf\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.0.2.v20221005-1040\jre\bin\javaw.exe (May 2, 2023, 1:26:38 AM) [pid: 13264]

```
Pass
Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
11
Name: khushi
Id: 7
attendance : 75%

Name: ritu
Id: 8
attendance : 88%

Name: habibah
Id: 3
attendance : 65%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
8
Name: khushi
Id: 7
attendance : 75%
Result : Pass
CGPA: 3.75
Grade: A
Waiver: 50%

Name: ritu
Id: 8
attendance : 88%
Result : Pass
CGPA: 3.44
Grade: B+
Waiver: 0%

Name: habibah
Id: 3
attendance : 65%
Result : Pass
CGPA: 3.99
Grade: A
Waiver: 75%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
10
Student id:
8
Name: ritu
Id: 8
attendance : 88%
Result : Pass
```

Problems ☐ Console ✕

Main (5) [Java Application] C:\Users\mdraf\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.0.2.v20221005-1040\jre\bin\javaw.exe (May 2, 2023, 1:26:38 AM) [pid: 13264]

```
Grade: B+
Waiver: 0%

Name: habibah
Id: 3
attendance : 65%
Result : Pass
CGPA: 3.99
Grade: A
Waiver: 75%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
10
Student id:
8
Name: ritu
Id: 8
attendance : 88%
Result : Pass
Admit Fee: 2150.0
Couse Fee: 50000.0
Total Paymentlist : 52150.0

CGPA: 3.44
Grade: B+
Waiver: 0%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
10
Student id:
3
Name: habibah
Id: 3
attendance : 65%
Result : Pass
Admit Fee: 2150.0
Couse Fee: 0.0
Total Paymentlist : 2500.0

CGPA: 3.99
Grade: A
Waiver: 75%

Enter your choice:
1 - Information, 2 - Add new student, 3 - Give attendance, 4 - Fee, 5 - mid seat, 6 - final seat, 7 - result, 8 - PassList, 9 - failList, 10 - student details, 11 - presentList, 12 - absentList,
12
Name: ritu
Id: 8
attendance : 0%
```