EXPERIMENT- 2.1

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**Branch:** CSE-IOT

**Semester:** 3

**Subject Name**: Java programming

**UID:** 20BCS4576

**Section/Group**: IOT-A

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# Aim/Overview of the practical:

Understanding the concept of interface in java.

# Task to be done:

Write a program in java which implement interface Student which has two methods Display\_Grade and Attendence for PG\_Students and UG\_Students (PG\_Students and UG\_Students are two different classes for Post Graduate and Under Graduate Students respectively).

# Algorithm / Flowchart :

* + Start
  + Firstly, create an interface class having two methods.
  + Create a class PG\_students and implements interface to it.
  + In PG\_students class
    - Create its constructor that will take input of marks and attendance from user.
    - Use some more methods to diplay name, marks, grade and percentage for PG students.
  + In UG\_students class also create its constructor and methods to take input and display details of UG students repectively.
  + Now in main function create objects of both the class and print the output.
  + Stop

# Code:

**import java.io.\*;**

**import javax.lang.model.util.ElemntsScanner6;**

**interface Student**

**{**

**void display\_grade();**

**void display\_attendence();**

**}**

**class PG\_students implements Student**

**{**

**String name;**

**float m1,m2,m3, a, total;**

**PG\_students(Strings name, float m1, float m2, float m3, float a)**

**{**

**this.name = name;**

**this.m1 = m1;**

**this.m2 = m2;**

**this.m3 = m3;**

**this.a = a;**

**}**

**void display()**

**{**

**System.out.println("Student name: "+ name);**

**system.out.println("Marks are: "+m1+" "+m2+ " "+m3);**

**}**

**public void display\_attendence()**

**{**

**System.out.println("Attendence is: "+ a);**

**}**

**public voiddisplay\_grade()**

**{**

**total = ((m1+m2+m3)/300)\*100;**

**if(total>=90)**

**system.out.println("Grade is: A");**

**else if(total>=80)**

**System.out.println("Grade is: B");**

**else if(total>=70)**

**System.out.println("Grade is: C");**

**else if(total>=60)**

**System.out.println("Grade is: D");**

**else**

**System.out.println("Grade is: E");**

**}**

**class UG\_students implements student**

**{**

**String name;**

**float m1,m2,m3, a, total;**

**UG\_students(String name, float m1, float m2, float m3, float a)**

**{**

**this.name = name;**

**this.m1 = m1;**

**this.m2 = m2;**

**this.m3 = m3;**

**this.a = a;**

**}**

**void display()**

**{**

**System.out.println("\n\nStudent name: "+ name);**

**System.out.println("Marks are: "+m1+" "+m2+ " "+m3);**

**}**

**public void display\_grade()**

**{**

**total = ((m1+m2+m3)/600)\*100;**

**if(total>=90)**

**System.out.println("Grade is: A");**

**else if(total>=80)**

**System.out.println("Grade is: B");**

**else if(total>=70)**

**System.out.println("Grade is: C");**

**else if(total>=60)**

**System.out.println("Grade is: D");**

**else**

**System.out.println("Grade is: E");**

**}**

**}**

**public class STUDENTS**

**{**

**public static void main(String args[])**

**{**

**PG\_students p = new PG\_students("NEHA",69,80,78,77);**

**p.display();**

**p.display\_attendence();**

**p.display\_grade();**

**UG\_students u = ne UG\_students("ANANYA",67,80,78,77);**

**u.display();**

**u.display\_attendence();**

**u.display\_grade();**

**}**

**}**



1. **Result/Output/Writing Summary:**

# Learning outcomes (What I have learnt):

**1**. I have learnt about the concept of interfaces in java.

# Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Parameters | Marks Obtained | Maximum Marks |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
|  |  |  |  |