Java - PBL
In Sem Skill exam

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5.

```
package entity1;
public class student implements comparable
                                <student>
{
    private int id, pincode;
    private string name, gender, loc;
    private student() {
        this.id = 0;
        this.name = "x";
        this.gender = "male";
        this.loc = "x";
        this.pincode = 0;
    }
    public student (int id, string name, string gender,
                    string loc, int pincode)
    {   this();
        this.setID(id);
        this.setName(name);
        this.setGender(gender);
        this.setLoc(loc);
        this.setPincode(pincode);
    }
    public boolean setID(int id) {
        if(id>0) {
            this.id = id;
            return true;
        }
        return false;
    }
```

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```
public boolean setName (String name)
{
    if (!name.isEmpty() && name!=null)
    {
        this.name = name;
        return true;
    }
    return false;
}
public boolean setGender (String gender)
{
    if (!gender.isEmpty() && gender!=null)
    {
        this.gender = gender;
        return true;
    }
    return false;
}
public boolean setLoc (String loc)
{
    if (!loc.isEmpty() && loc!=null)
    {
        this.loc = loc;
        return true;
    }
    return false;
}
public boolean setPincode (int pincode) {
    if (pincode>0)
    {
        this.pincode = pincode;
        return true;
    }
    return false;
}
public String getID () {
    return Integer.toString (this.id);
}
```

```
public string getPincode(){
    return Integer.toString(this.pincode);
}
public string getName(){
    return this.name.toUpperCase();
}
public string getGender(){
    return this.gender.toUpperCase();
}
public string getLoc(){
    return this.loc.toUpperCase();
}
public string tostring(){
    string out = "";
    out += string.format("Id=%s%n", this.getID())
  out += String.format("Name=%s%n", this.getNam
                                        e());
  out += string.format("Gender=%s%n", this.getGender())
  out += string.format("Location=%s%n",
                          this.getLoc());
  out += string.format("pincode=%s%n",
                          this.getPincode());
  return out;
}
public int compareTo(student s){
    int c=s.getPincode().compareTo(this.
                          getPincode());
    if(c==0){
        c= this.getName().compareTo(s.getName())
```

```
            if (c==0){
                c = s.getID().compareTo(this.getID());
            }
        }
        return c;
    }
}
```

```
package collector;

import entity1.Student;
import java.util.*;

public class collectors {
    private ArrayList<Student> std;
    public collectors() {
        std = new ArrayList<student>();
    }
    public boolean addStd(student s) {
        if(s!=null)
            std.add(s);
            return true;
        }
        return false;
    }
    public string toString() {
        string out = "";
        for(student s : std) {
            out += s.toString();
        }
        return out;
    }
```

```
    public void sortStds() {
        Collections.sort(std);
    }
}
```

```
package enduser;
import entity1.student;
import java.util.*;
import collector.collectors;

public class Userclass {
    private static Scanner sc = new Scanner(System.in);
    collectors l= new collectors();
    public static void main(String args[])
    {   Userclass u = new Userclass();
        boolean repeat = true;
        while(repeat) {
            switch(u.mainmenu()) {
                case 1: u.insertstudent();
                break;
                case 2: u.displayStudentDetails();
                break;
                case 3: u.sortStudents();
                break;
                default: repeat = false;
            }
        }
    }
```

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```
public void insertStudents()
{
    System.out.println("Enter Id ");
    int id = sc.nextInt();
    System.out.println("Enter name: ");
    String name = sc.next();
    System.out.println("Enter Gender: ");
    String gender = sc.next();
    System.out.println("Enter location: ");
    String location = sc.next();
    System.out.println("Enter pincode ");
    int pincode = sc.nextInt();
    Student(id, name, gender, location, pincode);
    l.addStd(s);
}
public int mainmenu(){
    System.out.println("1. Add Student");
    System.out.println("2. Display Students");
    System.out.println("3. Sort Students");
    System.out.println("Enter any other number
        to exit");
    return sc.nextInt();
}
public void sortStudents(){
    l.sortStds();
    System.out.println("***** Sorted by Pincode
        Name and ID *****");
}
```

```
    public void displayStudentDetails() {
        System.out.println(l);
    }
}
```