Assignment 2:
JAVA project

Academic Management System

Name: Nandita Biswas

Roll No.: 21124033

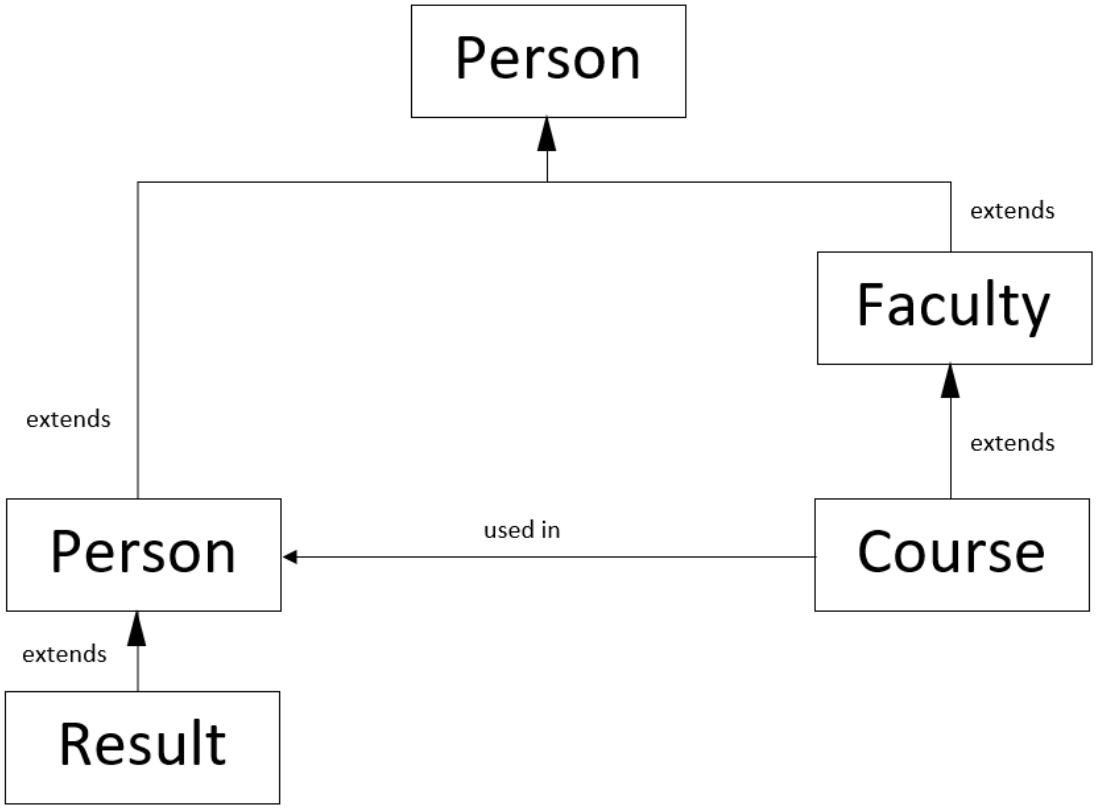
Department: Mathematical Sciences

Course: MA104 ITCW

Problem Statement

Design and build an entire academic management system. It must consist of all the details of the students in an organized manner which consists of all the information regarding their personal details, academic details, courses applied for, marks in the respective courses and finally calculating and keeping a record of the result obtained by the student like his percentage and grade. All the details should be presented in a proper way. The task should be completed by devising an appropriate model using various types of classes/abstract classes/ Interfaces/Inheritance by the use of Object Oriented Programming in JAVA which should be implemented along with appropriate attributes and methods.

Class Diagram or Schema



Classes

1. **Person:** This is the highest parent class and consists of attributes like name, age, sex, date of birth, mobile number, and methods for the getter and setters of these attributes and a method to display all the details of a person.

2. **Student:** This class inherits the Person class and consists of attributes for storing students details like student id, department, year, fee status, attendance, and the various courses for the semester, a static variable to store the total number of student classes made. It consists of methods for the getters and setters of the attributes, methods to collect the data for courses which are implemented through the Course class and lastly a method to print the student details.

3. **Faculty:** This class also inherits the Person class and consists of attributes for collecting the details of the faculty members like designation, department, and a static variable for number of faculty and methods for the getters and setters

and a last method to display the details of a faculty member.

4. **Course:** This class inherits the Faculty class and consists of attributes like course code, course name, marks, grade and then getters and setters of these attributes and then methods to print the course details.

5. **Result:** This class inherits the student class and has attributes for total marks, percentage, grade, and then methods to calculate these values and a final method to display the entire result along with details of the student.

Structure of the program

- student_management_system ← Package
  - Person.java
  - Student.java
  - Faculty.java
  - Course.java
  - Result.java
  - Runfile.java ← Main runner file of program

Output

```
Student Roll Number: 21124033
Name: Nandita Biswas
Sex: F
Age: 20
DOB: 26-05-2002
Mobile Number: 8841572000
Department: Mathematical Sciences
Year: 1st year
Attendance: 156
Fee Status: Paid

Course MA104 : IT & C Workshop
Faculty:-

Name: Dr. LP Singh
Sex: F
Age: 62
DOB: 12-10-1960
Mobile Number: 9994452611
Designation: Professor
Department: Mathematical Sciences
Marks: 84.5
Grade: B

Number of Faculty: 5
```

```
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Student Roll Number: 21124033
Name: Nandita Biswas
Sex: F
Age: 20
DOB: 26-05-2002
Mobile Number: 8841572000
Department: Mathematical Sciences
Year: 1st year
Attendance: 156
Fee Status: Paid
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Course MA104 : IT & C Workshop :: 84.5 :: B
Course CSO102 : Data Structure :: 77.0 :: C
Course MA101 : Mathematics-I :: 88.75 :: B
Course ME104 : Engineering Drawing :: 96.5 :: A
Course H106 : Education and Self :: 63.25 :: F
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Total Marks (out of 500): 410.0
Percentage of marks: 82.0
Overall grade: B
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Process finished with exit code 0
```