

```
package enrollingStudentPlus;
```

```
import java.util.ArrayList;
```

```
import java.util.List;
```

```
public class CL {
```

```
    private int classID;
```

```
    private String course;
```

```
    private List<Students> students; //
```

```
    public CL(int classID, String course) {
```

```
        this.classID = classID;
```

```
        this.course = course;
```

```
        this.students = new ArrayList<>(); //
```

```
    }
```

```
    public void setClassID(int classID) {
```

```
        this.classID = classID;
```

```
    }
```

```
    public int getClassID() {
```

```
        return classID;
```

```
    }
```

```
    public void setCourse(String course) {
```

```
        this.course = course;
```

```
    }
```

```
    public String getCourse() {
```

```

        return course;
    }

    public List<Students> getStudents() {
        return students;
    }

    public void setStudents(List<Students> students) {
        this.students = students;
    }

    public void addToClass(Students student) {
        students.add(student);
    }

    @Override
    public String toString() {
        StringBuilder stringBuilder = new StringBuilder();
        stringBuilder.append("Class ID: ").append(classID).append("\nCourse: ").append(course).append("\nStudents:\n");
        for (Students student : students) {
            stringBuilder.append(student.toString()).append("\n");
        }
        return stringBuilder.toString();
    }
}

```

```

package enrollingStudentPlus;

```

```

import java.util.ArrayList;

```

```
import java.util.List;
import java.util.Scanner;

public class Enrolling {
    private List<CL> classes; // List of classes
    Scanner input = new Scanner(System.in);

    public Enrolling() {
        this.classes = new ArrayList<>(); // Initialize the list of classes
    }

    public List<CL> getClasses() {
        return classes;
    }

    public void setClasses(List<CL> classes) {
        this.classes = classes;
    }

    public void enroll(Students student, CL cl) {
        cl.addToClass(student);
    }

    public void printEnrollments() {
        for (CL cl : classes) {
            System.out.println(cl.toString());
        }
    }
}
```

```
package enrollingStudentPlus;
```

```
public class GradStudents extends Students {
```

```
    private String speciality;
```

```
    public GradStudents(int studentID, String firstName, String lastName, String promotion, String department, String speciality) {
```

```
        super(studentID, firstName, lastName, promotion, department);
```

```
        this.speciality = speciality;
```

```
        updateFullName();
```

```
    }
```

```
    public String getSpeciality() {
```

```
        return speciality;
```

```
    }
```

```
    public void setSpeciality(String speciality) {
```

```
        this.speciality = speciality;
```

```
    }
```

```
@Override
```

```
public String toString() {
```

```
    return "ID: " + getStudentID() + "\nFullName: "
```

```
        + getFullName() + "\nPromotion: " + getPromotion()
```

```
        + "\nDepartment: " + getDepartment() + "\nMajor: " + speciality;
```

```
    }
```

```
}
```

```
package enrollingStudentPlus;
```

```
public class Main {
```

```
    public static void main(String[] args) {
```

```
        UnderGradStudents s1 = new UnderGradStudents(1, "Nguyen", "Dat", "2022", "CNTT", "CNTT");
```

```
        GradStudents s2 = new GradStudents(2, "Nhi", "Pham", "2010", "CNTT", "Software Engineer");
```

```
        GradStudents s3 = new GradStudents(2, "Trung", "Nguyen", "2011", "CNTT", "DEV");
```

```
        System.out.println(s1.toString());
```

```
        System.out.println(s2.toString());
```

```
        System.out.println(s3.toString());
```

```
        CL c1 = new CL(1, "Programming");
```

```
        CL c2 = new CL(2, "Database");
```

```
        CL c3 = new CL(3, "Advanced Artificial Intelligence");
```

```
        Enrolling enrolling = new Enrolling();
```

```
        enrolling.getClasses().add(c1);
```

```
        //enrolling.getClasses().add(c2);
```

```
        //enrolling.getClasses().add(c3);
```

```
        enrolling.enroll(s1, c1);
```

```
        enrolling.enroll(s2, c1);
```

```
        //enrolling.enroll(s3, c2);
```

```
        enrolling.printEnrollments();
```

```
}  
}
```

```
package enrollingStudentPlus;
```

```
public class Students {  
    private int studentID;  
    private String firstName;  
    private String lastName;  
    private String fullName;  
    private String promotion; // khóa học  
    private String department; // khoa  
  
    public Students (int studentID,String firstName,String lastName,String promotion,String  
department){  
        this.studentID = studentID;  
        this.firstName = firstName;  
        this.lastName = lastName;  
        this.promotion = promotion;  
        this.department = department;  
        this.fullName = "";  
    }  
    public int getStudentID() {  
        return studentID;  
    }  
    public void setStudentID(int studentID) {  
        this.studentID = studentID;  
    }  
}
```

```
}

public String getLastName() {
    return lastName;
}

public void setLastName(String lastName) {
    this.lastName = lastName;
    updateFullName();
}

public String getFirstName() {
    return firstName;
}

public void setFirstName(String firstName) {
    this.firstName = firstName;
    updateFullName();
}

public String getFullName() {
    return fullName;
}

// Phương thức cập nhật fullName
public void updateFullName() {
    this.fullName = firstName + " " + lastName;
}

public String getPromotion() {
    return promotion;
}

public void setPromotion(String promotion) {
    this.promotion = promotion;
}
```

```
    }  
    public String getDepartment() {  
        return department;  
    }  
    public void setDepartment(String department) {  
        this.department = department;  
    }  
}
```

```
package enrollingStudentPlus;
```

```
public class UnderGradStudents extends Students {  
    private String major;  
  
    public UnderGradStudents(int studentID, String firstName, String lastName,  
        String promotion, String department, String major) {  
        super(studentID, firstName, lastName, promotion, department);  
        this.setMajor(major);  
        updateFullName();  
    }  
  
    public String getMajor() {  
        return major;  
    }  
  
    public void setMajor(String major) {
```



```
        this.major = major;
    }

    @Override
    public String toString () {
        return "ID: " + getStudentID() + "\nFullName: "
+ getFullName() + "\nPromotion: " + getPromotion()
+ "\nDepartment: " + getDepartment() + "\nMajor: " + major;
    }
}
```