

Ex1. Consider the following class **Student** and its description and then write the code for it

Student
<pre>-studentName:String -studentId:int -studentAge:int -studentGender:String ----- +Student(n:String,id:int,age:int,gen:String) +getStudentId():int +getStudentName():String +getStudentAge():int +getStudentGender():String +display()</pre>

Student class:

Attributes:

- studentName: Name of the student
- studentId: school id of the student
- studentAge: Age of the student
- studentGender: Gender(Male or Female) of the student

Methods:

- Student(n: String, id: int, age:int, gen:String): constructor
- getStudentId(): this method returns the id of the student
- getStudentName(): this method returns the name of the student
- getStudentAge(): this method returns the age of the student
- getStudentGender(): this method returns the gender of the student
- display(): this method displays the attributes of the class.

Ex2. Consider the class **Student** described in Exercise 1 and write the code for following class **Section**.

Section
-arrStu[]:Student -nbStu:int
+Section(size:int) +addStudent(Student st):boolean +searchStu(id:int):int +deleteStu(id:int):boolean +displayAll() +display(index: int) +display(name:String) +displaySameAs(st: Student) <i>+searchFirst(name: String): Student</i> <i>+searchLast(name: String): Student</i> <i>+getStudents(age:int):Student[]</i>

Section class:

Attributes:

- arrStu: array the students
- nbStu: current number of students in the section

Methods:

- Section(size:int): constructor
- addStudent(*st:Student*): this method adds a student *st* in the section and returns true if student is successfully added in the section otherwise it returns false.
- searchStu(*id:int*): this method returns the index of the array if student with Id *id* is found otherwise it returns -1.
- deleteStu(*id:int*): this method deletes a student with Id *id* from the section. It returns true if the student is successfully deleted otherwise it returns false.
- displayAll(): this method will display the information of every student in the section
- display(*index:int*): this method will display the information of the student at array index *index*
- display(*name:String*): this method will display the information of every student in the section whose name is *name*.
- displaySameAs(*st:Stuednt*): this method will display the information of every student in the section whose information(Name, Age and Gender) is same as of *st*.
- searchFirst(*name:String*): this method will return the first Student Object from the array whose name is *name*.

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- `searchLast(name:String)`: this method will return the last Student Object from the array whose name is *name*.
- `getStudents(age:int)`: this method will return an array of students having age less than *age*.