

# CS213: Programming 2

## Assignment -3



### FCIVECTOR TEMPLATE CLASS

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Declaring and Defining an **FciVector Template class** which have all functions like standard vector, **declare all FciVector functions and their implementations in FciVector.h** using it in main function as a separate file by including **FciVector.h** to add list of integer, list of character, list of string, list of float, and list of **students**.

By declaring and defining a class of **students** with member variables sname (string), sid(integer), sdepartment(string) and a fcivector of (courses class) which contains courseName(string), courseCode(string) , courseGrade(character) , coursePoint(float) , courseYear(integer) and courseSemester(integer). *(Please stick to the class diagram in the last page)* **Sample input/output:**

Insert type of vector you would like to create:

1. list of integer
2. list of character
3. list of string
4. list of float
5. list of students
6. Exit

5

A vector of students was created successfully.

What kind of operation would you like to perform?

1. Add element.
2. Remove last element.
3. Insert element at certain position.
4. Erase element from a certain position.
5. Clear.
6. Display first element.
7. Display last element.
8. Display element at certain position.
9. Display vector size.
10. Display vector capacity.
11. Is empty?

1

How many elements you would like to add?

1

Enter Elements:

Student name: Ahmed

Student ID: 12343553

Student Department: CS

Number of Courses: 1

Enter Course #1 info:

Course Name: Parallel Processing

Course Code: CS471

Course Grade: A

Course point: 3.5

Course year: 2019

Course Semester: 1

Would you like to perform other operations? (Y/N)

N

Insert type of vector you would like to create:

1. list of integer 2.

list of character

...

6. Exit

4

A vector of floats is created successfully.

What kind of operation would you like to perform?

1. Add element.

2. Remove last element.

3. Insert element at certain position. ...

10. Display vector capacity.

11. Is empty?

1

How many elements you would like to add?

3

Enter elements:

4.5 1.2

5.7

Would you like to perform other operations? (Y/N) Y

What kind of operation would you like to perform?

1. Add element.
2. Remove last element.
3. Insert element at certain position.

...

11. Display vector capacity.

11

Vector capacity is 10. *// notice that capacity is different from size, size = 3.*

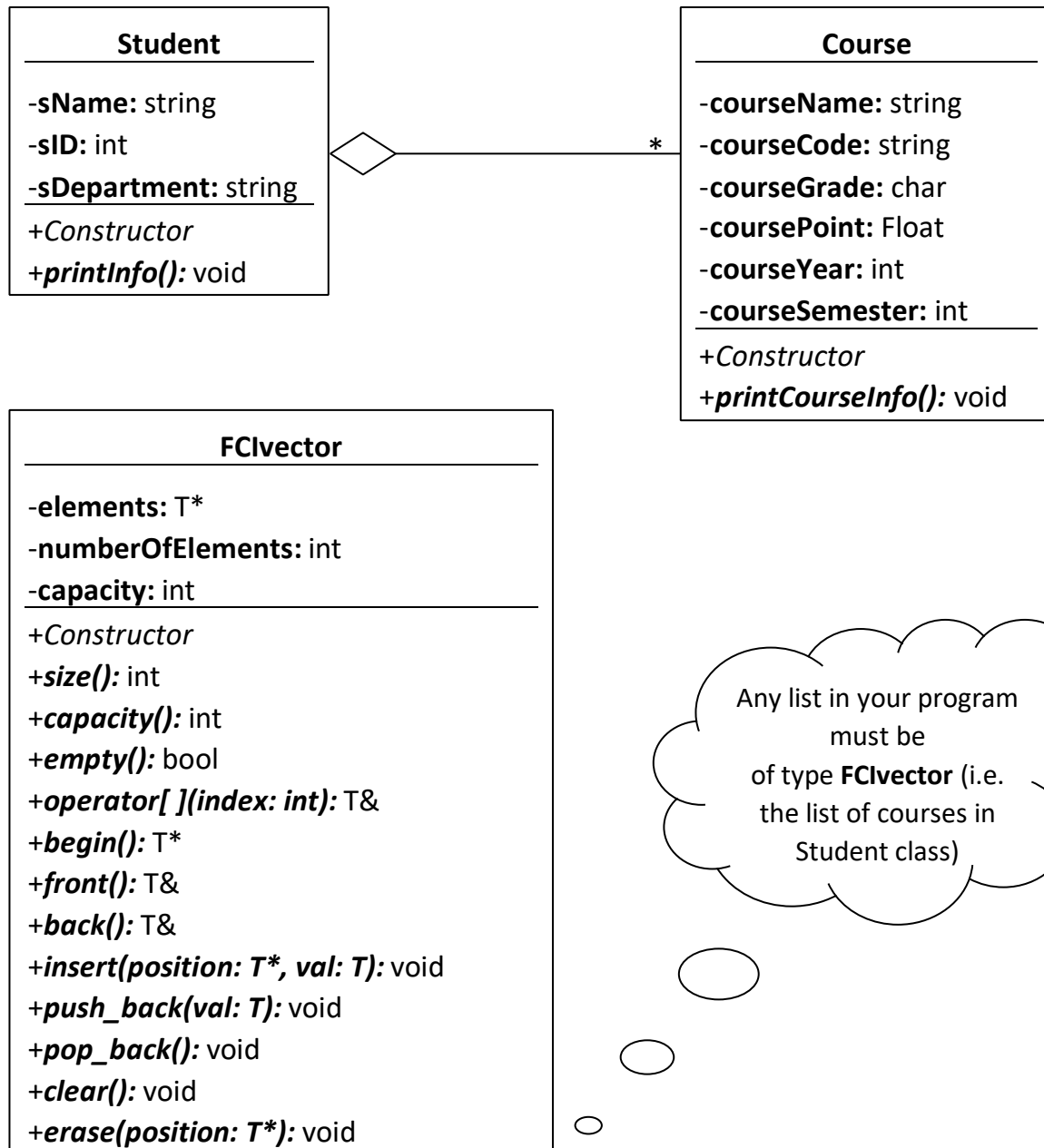
Would you like to perform other operations? (Y/N)

N

## QUIZ GAME FEATURES

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Declare and define a tower of Hanoi recursion function and try to adding graphical interface as shown in lecture (with +5 points bonus)



## GENERAL NOTES AND CONSIDERATIONS

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Please consider the following while doing your assignment:

- **Standard convention:** Follow standard code conventions to produce a clean and well document code. A good rules-guide to help you achieve this is in [this link](#).
- **Do not share your code outside your group before your discussion.**