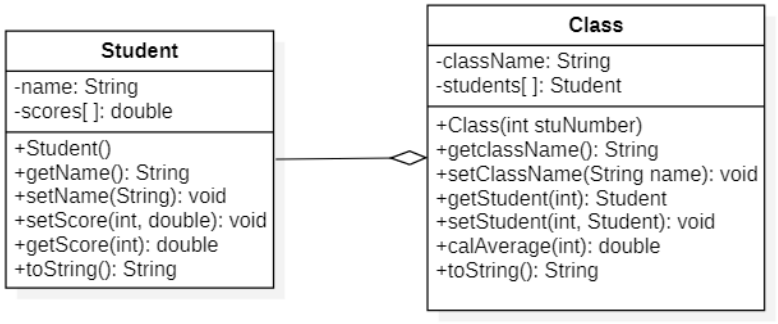
COSC 24L3: Lab Assignment #6
Computer Science Department @ Dallas Baptist University
Fall 2023

Define two classes:



Student:

- **name**: student name, including first name and last name
- **scores[]**: an array with *three* test scores
- **Student()**: constructor, creates the scores array with 3 elements.
- set and get methods for name and scores
- **setScore(int index, double score)**: set the score to the score indexed by **index**.
- **getScore(int index)**: returns test score indexed by **index**
- **toString()**: returns a string including student information, name and scores

Class:

- **className**: name of the class.
- **students[]**: an array of student object.
- **Class(int num)**: constructor, creates an array with **num** number of elements with the type of **Student**.
- get and set methods for **className.**
- **getStudent(int index):** returns student indexed by **index.**
- **setStudent(int index, Student student)**: set student in array indexed by **index**.
- **calAverage(int testNum)**: returns the score average of test number **testNum**.
- **toString()**: returns a string including the class information: class name, student name, student test scores.

Tasks:

a. Define Student and Class classes.
b. Write a program to test the above 2 classes:

1. Create a student object using default constructor.
2. Ask user to input user's name (first name and last name) and three test scores.
3. Use set methods to set user's name and three test scores.
4. Print user's information: name and three test scores.
5. Ask user for the number of students in a class.
6. Create a Class object with the number of students input by user.

7. Ask user to input students information and add to the student array.
8. Display score average of the three tests.
9. Display the class information: class name, students names and their test scores.

Sample run:

Please input student information:
Student name: *John Doe*
Test score 1: *100*
Test score 2: *80*
Test score: *90*

Student: John Doe
Test scores: 100, 80, 90

Please input class information:
Class name: *Java*
How many students in this class: *3*

>>> Student 1
Name: *Iron Man*
Test 1: *96*
Test 2: *88*
Test 3: *90*

>>> Student 2
Name: *Captain American*
Test 1: *80*
Test 2: *85*
Test 3: *100*

>>> Student 3
Name: *Doctor Strange*
Test 1: *88*
Test 2: *82*
Test 3: *98*

>>> Class information
Class Name: Java

>>> Students:
Student: Iron Man
Test scores: 90, 98, 90

Student: Captain American
Test Score: 80, 85, 100

Student: Doctor Strange
Test scores: 88, 85, 96

>>> Test average
Test 1: 88
Test 2: 85
Test 3: 96