COMP 1409 Lab 10-a

Create a class called **Student** that has these features:
• instance variables for name, studentId, and email.

• a default constructor and a second constructor that expects all three values to be passed as parameters. Call the “set” methods from the constructor.

• “get” and “set” methods for all instance variables. The “set” methods must validate their parameters. Name and email must be a String with at least one letter, i.e. not null and not an empty string. The StudentId must begin with the letter 'A'. Display an appropriate error message for an invalid parameter and do not use it to set the field.

Create a class called **ClassList** that has these features:
• two instance variables: an Array of Student types and a String to hold the course name, e.g. “COMP 1409”.

• a constructor that initializes the instance variables. The course name should be passed as a parameter to the constructor.

• a method that adds a new Student to the ArrayList. Here is the method signature: **`public void addCat(Student newStudent)`**.

• a method that checks to see if the class list is empty. **`public boolean isClassEmpty()`**

• a method that returns the number of Students in the class. **`public int numberOfStudents()`**

• a method that takes an int parameter and displays on the screen the details of the Student stored at that index position. This method must ensure that the parameter is a valid index position and that the element is not null, and display an error message if the test fails.
`public void displayStudent(int index)`

• a method that takes an int parameter and removes from the collection the Student stored at that index position. This method must ensure that the parameter is a valid index position and display an error message if it is not. **`public Student removeStudent(int index)`**

• a method that uses a for each loop to display the names of all the Students in the list.
`public void displayAllStudents()`
e.g.

```
The current classlist is:
Garfield
Furball
Fang
Grover
Silkie
```

Create a **TestClassList** using main(...) class will create Students, add their references to the classlist and test the other ClassList methods described above.

Demonstrate your completed project to your instructor or TA before leaving the lab and be sure we have checked it off. A suggested solution will be given during the next class and labs that have not been checked off will not receive any points.