# Assignment 2: Inheritance

## Instructions

In this assignment we're going to continue working with the question classes.

In a **Visual Studio project**, create a **question** base class, and other derived classes such as (Multiple-choice question) **mcquestion**, (Numerical-Answer question) **naquestion**, and (short-answer question) **saquestion**. The relation between these classes is:

```
question
|--- saquestion
|--- mcquestion
|--- naquestion
```

I.e. **saquestion** is a derived class from **question**, **naquestion** is a derived class from **question**, etc.

- **question** class has a private string variable named **text** which stores the text of the question. Accessor and mutator are required.
    - **mcquestion** class has a private string array called **choices**[1]. The **choices** array contains 4 elements. Also, two functions: (1) **setAnswer** which parameters are the text of an answer and an array position where it will be stored, and (2) **getAnswer** which returns the text of an answer given an array position. Also, a function named **checkAnswer** which checks whether the input parameter is the correct answer.
    - **naquestion** class has two private double variables called **answer_min**, **answer_max**. Accessor is required for each of these variables. Mutator must modify both variables in the function. Always, **answer_min** <= **answer_max**. Also, a function named **checkAnswer** which checks whether the input parameter is the correct answer. An answer is considered correct if the answer is within [**answer_min**, **answer_max**].
    - **saquestion** class has a private string variable called **answer**. Accessor and mutator are required. Also, a function named **checkAnswer** which checks whether the input parameter is the correct answer.
- Create a **quiz** class
    - The quiz will have 2 Multiple-choice questions, 2 Numerical-Answer questions, and 2 Short-Answer questions.
    - Use the user input to verify if it is the correct answer.
    - Count the number of correct answers and calculate a grade (correct_answers/total_answers)
- In the main program

    - Create a quiz using the appropriate 6 questions and answers.
        - Design your own questions and answers. Do not use “Lorem ipsum ...” text, “asdasadasfa” text, or another placeholder.
    - Start an attempt of the quiz.
- Test your program.

Save the Visual Studio project.

Save the project in a **zip** folder and submit it.

Notes:

- Assignment 1’s code can be reused.
- Questions does not have to be presented in random order.
- Your submission will be tested on **Visual Studio 2019**.

[1]As a reference, in assignment 1, this array was named **answers**.