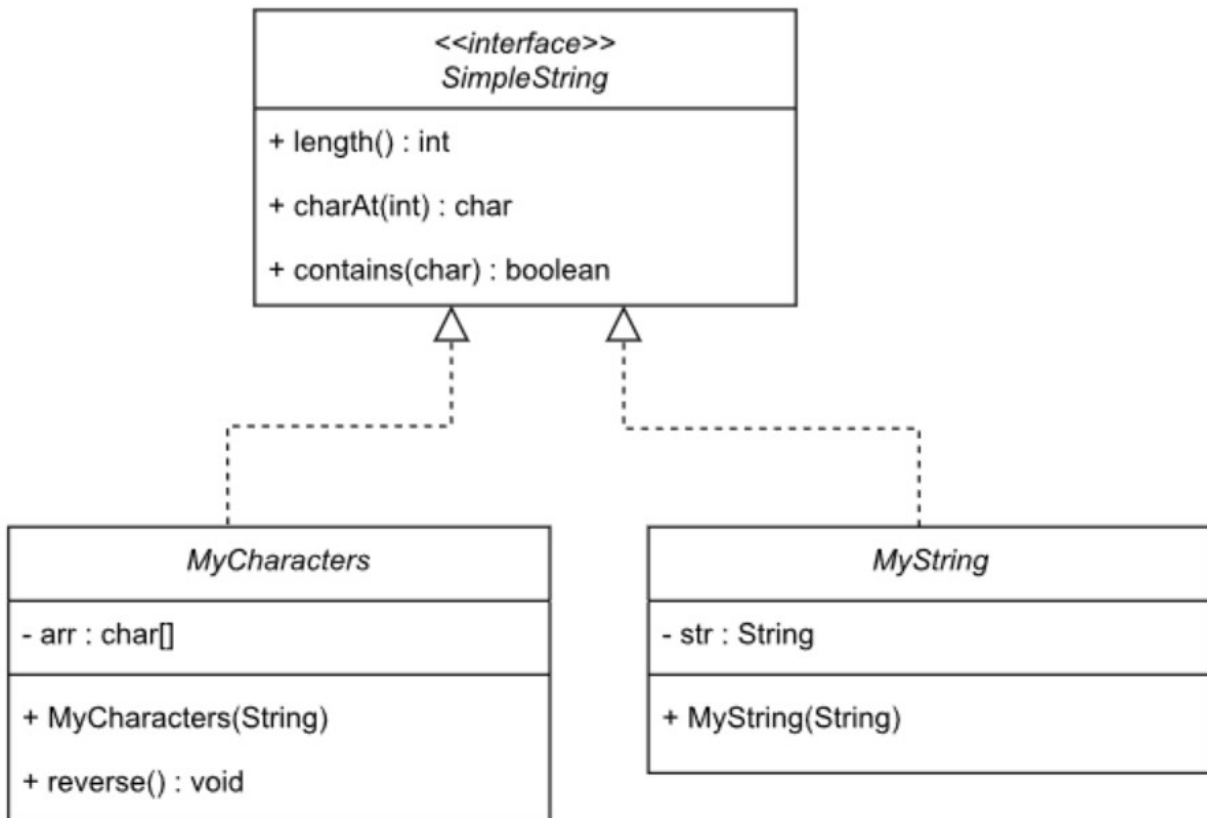


We want to write a program that implements a simple string interface. We will represent that string in two ways: as an array of characters and as a String wrapper.



Interface **SimpleString**:

- Methods:
 - **length()**: returns the number of characters in the string
 - **charAt(*i* :int)**: returns the character at index *i* in the string if possible. Assume the first character is in index 0
 - **contains(*c*:char)**: returns true if the string contains character *c*, or false otherwise

Class **MyCharacters**:

- Instance Attributes:
 - *arr*: an array of characters to represent the string
- Methods:
 - *MyCharacters(str:String)*: constructor that copies the content of *str* into *arr*
 - *reverse()*: reverses the string:
 - *if arr = {'H', 'e', 'l', 'l', 'o'}, after calling reverse() it becomes arr = {'o', 'l', 'l', 'e', 'H'}*

Class **MyString**:

- Instance Attributes:
 - *str*: a string
- Methods:
 - *MyString(str:String)*: constructor

Exercise 1: Write the interface **SimpleString**, and classes **MyCharacters** & **MyString**.

Exercise 2: Write class **SimpleStringTest** that has the following:

- A static method that receives a simple string and prints it:
 - `public static void print(SimpleString s)`
- A main method to test the functionalities of the classes:
 - Create a **SimpleString** array of size 4
 - Add 2 **MyCharacters** strings & 2 **MyString** strings to the array
 - Print all the strings in the array using the static print method (see sample run)
 - Check if all the strings contain a certain character (e.g. 'r') and print the result
 - Reverse all the **MyCharacters** strings in the array
 - Print all the strings in the array

Sample run:

```
Hello
World
Java
Programming
-----
false
true
false
true
-----
olleH
World
Java
gnimmargorP
```