AP Computer Science Homework 08

Due date: Thursday, November 26, 2015
Instructor: Mr. Alwin Tareen

Part A: Encryption of a Message

- Your task is to create a program that can encrypt a plaintext message.
- The technique used in this assignment is encryption by substitution. An alphabet letter is selected, and then it is replaced in the original message by a larger sequence of nonsense characters. For example:
  - `"v"` ⟶ `"agxzr"`
  - `"m"` ⟶ `"ssad"`
- You must write an `encrypt` method for the `Cryptography` class. It will accept a `String` parameter that represents the original message to be encrypted. You may assume the following:
  - The original message will only have lowercase letters, no uppercase ones.
  - Each of the selected substitution letters will appear in the message only once. You won't be expected to solve a complicated looping problem.
- *Hint:* You will need to use the `indexOf` and `substring` methods in this assignment.
- A sample message has been provided for you for testing purposes: `this is a very big morning.` After running your program, the output should look like the following:

```
This is a very big morning.
This is a agxzrery big ssadorning.
```

- You are provided with the files `Cryptography.java` and `CryptographyJUnitTest.java` to develop this program.
- Write your code in the area indicated by `//YOUR CODE HERE`.
- On your `BlueJ` project window, you should see a button labelled `Run Tests`. Press this button to run the `JUnit` tests.
- You should see a `BlueJ: Test Results` window pop up. If everything is correct, you should see a green bar that indicates that your code has passed the `JUnit` tests. If your program is incorrect, you will see a red bar. You can click on the method name to get more information about the problem. Otherwise, just click on the `Close` button, and you can go ahead and upload this program to `Web-CAT`.

Part B: Submission

- Submit your Java program `Cryptography.java` by uploading it to the Web-CAT automated grading platform.