CSC 110: Fundamentals of Programming I
Assignment #2: Static Methods, Scanners, for-loops

Due date

Sunday, January 24th, 2015 at 11:55 pm via submission to connex.

How to hand in your work

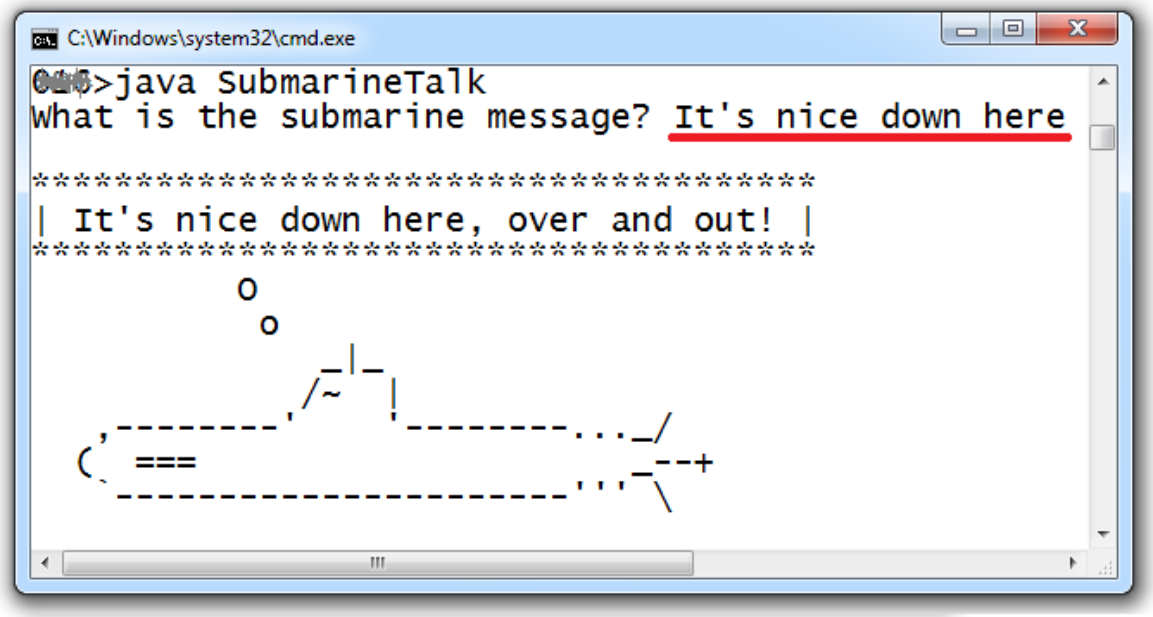
Submit the requested file (`SubmarineTalk.java`) through the Assignment #2 link on the CSC 110 connex site.

Learning outcomes

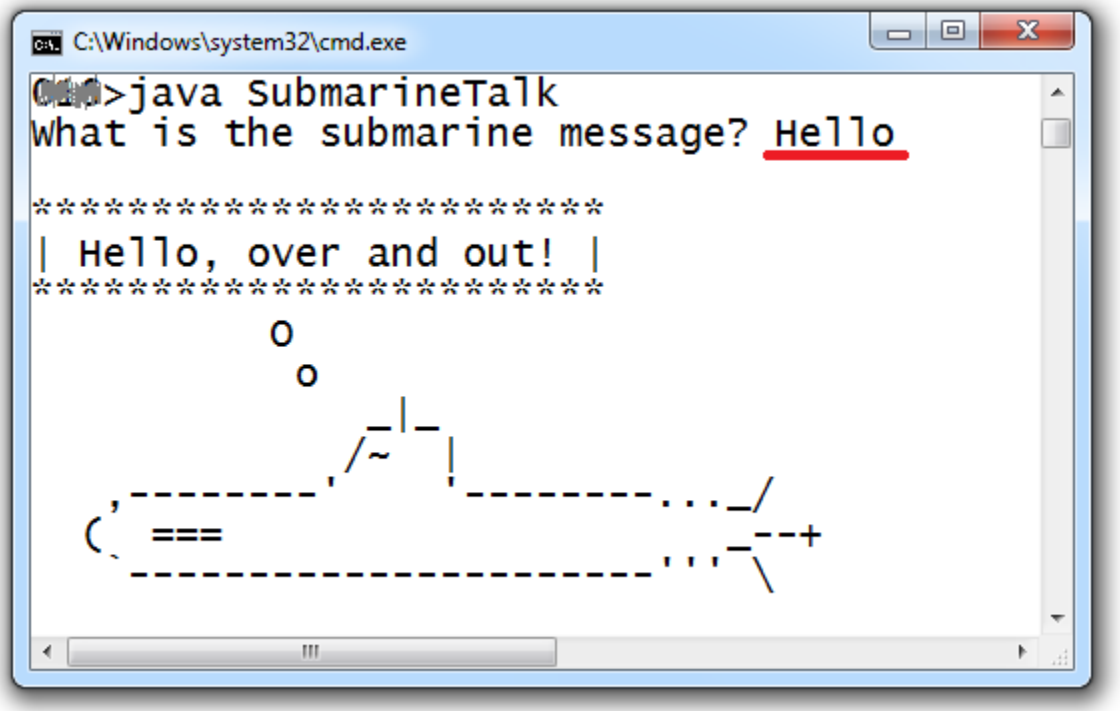
When you have completed this assignment, you should understand:

- How to *evaluate expressions*.
- How to use a *`for-loop`* to repeat operations.
- How to write and call a *static method*.
- How to *design, compile, run and check* a simple and complete Java program on your own.
- How to *input data from the console*.
- How to use *String methods*.
- How to *indent and document* a Java program.

Create a Java program named *SubmarineTalk.java*. The program will request user input from the command line, and the program then "says" the text that is entered, followed by the words "over and out!" (in a quote box created with asterisks). The program will then print an ASCII submarine. Below are two examples of the output from running *SubmarineTalk* with the text the user enters underlined in red:



Note: The size of the quote box depends on the size on the user's message:



In your program, you will create two static methods:

1. A static method called *theMessage()*, which does the following:
    a. Asks the user to enter text ("What is the submarine message?").
    b. Creates and uses a *Scanner* object and its *nextLine()* method to read input from the user through the command-line interface.
    c. Adds ", over and out!" to the submarine's message. (Optional: You may also add the |'s and spaces at either end of the message)
    d. Uses the String's *length()* method to determine the message's size (the total number of characters in the String the submarine says)
    e. Uses *for-loops* to create the appropriate sized quotation box around the submarine's message (the *'s above and below the message).

2. A static method named *printSub()*, which prints out an ASCII submarine:
    a. Remember your escape sequences to print out quotes (") and backslashes (\).

Advice: Build this method in parts, compiling and running after each major addition to your code to check that the code does work as you expect. For example, you might first prompt the user to enter some text, then store the text as a string, and then directly print the text back. After that you might write *theMessage()* method and then, finally, add the necessary for loops.

File to submit: SubmarineTalk.java

Marking

Your mark will be based on the following criteria:

- Your code *must compile and run*. It must prompt the user, read text input, and produce the expected output as described and shown above.

- Your code must conform to the requirements mentioned above (i.e., have *theMessage()* and *printSub()* methods, a *Scanner* object, *for-loops*, etc.).

- Your code must follow the guidelines outlined in Style_Guidelines.pdf, found through the Lectures & Stuff link in the Lab Resources folder on connex.