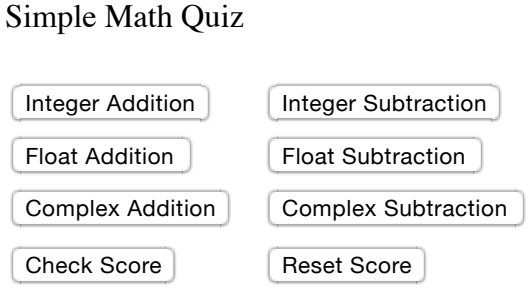
Assignment 3

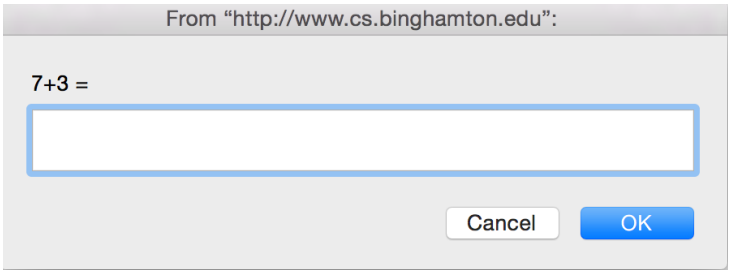
Due: 11:59pm Oct. 30th (Friday)

This assignment is done by a group of 2 or 3 students (each group submits only 1 copy of the assignment)

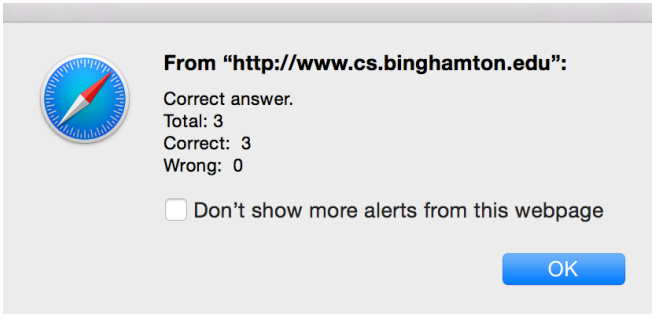
Implement a simple math quiz, whose interface is given below, using JavaScript and HTML.

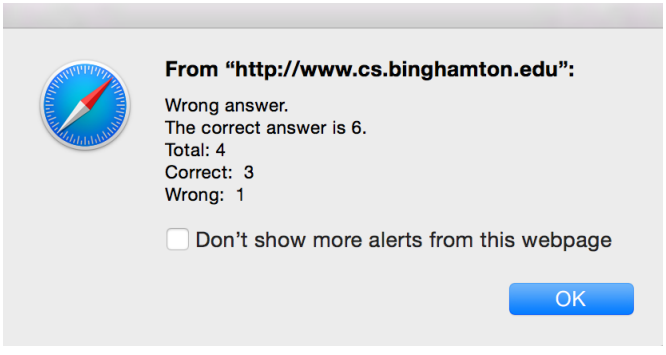


The user can choose to do a quiz on integer/float/complex-number addition or subtraction. If the user chooses integer addition, then the program randomly generates two integers X and Y (0<= X,Y < 10), and display X+Y on the screen (using prompt box) as shown below.



After the user provides the answer and clicks OK, an alert box is prompted that shows (1) whether the answer is correct; if the answer is wrong, then give the correct answer; (2) total number of questions the user has answered; (3) the number of correct answers; and (4) the number of wrong answers. Sample outputs are given below.





If the user clicks Cancel at the prompt box, it does not increase the value of Total, Correct, and Wrong.

If the user chooses float addition, then the program randomly generates two numbers X1.X2 and Y1.Y2, where 0< =X1, X2, Y1, Y2 <10, and X1, X2, Y1, and Y2 are integers. If the user chooses complex number addition, then the program randomly generates two numbers X1+X2i and Y1+Y2i, where 0<= X1, X2, Y1, Y2 <10, and X1, X2, Y1, and Y2 are integers. The sum of the two numbers is (X1+Y1) + (X2+Y2)i.

Subtraction is done similarly.

The user can also check his/her scores by clicking "Check Score" button, which shows (1) total number of questions the user has answered; (2) the number of correct answers; and (3) the the number of incorrect answers. A sample output is given below. If the user has not answer any questions, then 0 will be displayed in all fields.

Finally, the user can reset his/her scores by clicking "Reset Score" button, which reset Total, Correct, and Wrong to 0.

Extra credits (5 points):

Match the result of the program with the user's input as follows (assume that n, n1, and n2 are 1 or 2):

Result	**User's input**
0+0i	0
n+0i	n
0+ni	ni
n1+-n2i	n1-n2i

Please create two buttons in your program: extra-addition and extra-subtraction. When clicking these two buttons, the program randomly generates two numbers X1+X2i and Y1+Y2i, where X1, X2, Y1, and Y2 are either 0 or 1, and computes addition/subtraction correspondingly.

Submission guideline

- Please hand in your **source code** electronically. The file name should be **quiz.html**.
- Write a **README** file **(text file, do not submit a .doc file**) which contains
  - Names and email addresses of group members.
  - (optional) anything special about your submission that the TA should take note of.
- Place quiz.html and README under one directory with a unique name (such as p3-[userid] for assignment 3, e.g. p3-pyang).
- Tar the contents of this directory using the following command.
  tar –cvf [directory_name].tar [directory_name]
  E.g. tar -cvf p3-pyang.tar p3-pyang/

- Use the Blackboard to upload the tared file you created above.

Grading guideline

- Readme, correct file names: 4'
- Correctness: 96

Academic Honesty:

All students should follow Student Academic Honesty Code (http://watson.binghamton.edu/acadhonorcode.html). All forms of cheating will be treated with utmost seriousness. You may discuss the problems with other students, however, you must write your OWN codes and solutions. Discussing solutions to the problem is NOT acceptable. Copying an assignment from another student or allowing another student to copy your work may lead to an automatic **F** for this course. If you borrow small parts of code/text from Internet, you must acknowledge this in your submission. Also, you must clearly understand and be able to explain the material. Copying entire material or large parts of such material from the Internet will be considered academic dishonesty. Moss will be used to detect plagiarism in programming assignments. You need ensure that your code and documentation are protected and not accessible to other students. Use **chmod 700** command to change the permissions of your working directories before you start working on the assignments. If you have any questions about whether an act of collaboration may be treated as academic dishonesty, please consult the instructor before you collaborate.