**ICS3U Practical Test Unit 1-Variables and Decision Making**

**Instructions**: You may use your notes, your handouts and your code files to complete this practical test. You may work with your group. You may also use the internet to research information but cannot communicate directly with anyone else. You must write the code in a script block and not use an externally linked source file. Each program must run one after the other. If a program is not complete then erase the code that is preventing it from running. You are only getting marked on the execution of the solution and so will be awarded part marks for simply displaying the correct alerts and prompts, even if the entire program doesn’t work. If a program does not run it will be assigned a ZERO. All inputs and outputs must be done using **prompts** and **alerts**.

When you are done save the file using the format **practical2019\_1\_YourNames.html (not following this format will result in a mark deduction of -1). An example might be practical2019\_1\_JoeMaryLisa.html.** Submit it according to your teacher’s instructions (go [here](https://sdsscomputers.com/_uploadFiles/) to submit it).

There will be a time bonus added to your mark based on the time of submission. You can only submit once. Second submissions will not be marked. Don’t forget, to get perfect, your alert and prompt messages must follow the exact formats specified in this handout. If it is not specified then you must create a reasonably formatted message of your own. Good luck!

**Marks 30(Application)**

**HINT**: don’ forget to put **+** in front of *prompt* to convert required inputs into real numbers!

**Problems**:

1. Create a program with two math questions. After each answer, inform the user of the result.

**Example IO (example input output…follow this exactly, unless not shown then provide something reasonable):**

**Program**: Hello, welcome to my math game. What is your name?

**User**: Bob

**Program**: Bob, what is 2 + 5?

**User**: 7

**Program**: Nice work Bob, you got that RIGHT!

**Program**: Bob, what is 3 x 6?

**User**: 15

**Program**: Bob, you got that WRONG!

**Program**: Have a nice day!

1. A builder want to buy sheets of plywood that will cover the floor of a house. Each sheet covers 32 square feet. Create a program that inputs the square footage to be covered and then outputs the total number of plywood sheets required and the total cost to purchase them (assume a tax rate of 13%). You must purchase full sized sheets i.e. you cannot buy a quarter of a sheet. Ask for the cost of each sheet as well.

**Example IO:**

**Program**: Hello, what is the square footage of flooring that needs to be covered?

**User**: 100

**Program**: How much does each sheet cost?

**User**: 10.50

**Program**: You will need 4 sheets.

**Program**: The total cost including tax is $47.46.

**Hint**: To solve this problem perfectly, you will need to be able to round up. Search the internet and find out how you can do this!

1. Create a small quiz with questions based on computer science. The quiz should have 3 questions. The first question needs to be multiple choice, the second a one word answer and the third a true/false. After completing the quiz the user should be informed of their results in the following format: “Congratulations, you have passed the quiz! You got 3 out of 3 for a result of 100%.” Or “Not bad, you still passed but only got 2 out of 3 for a result of 66%.” Or “Not good. You failed. You only got 1 out of 3 for a result of 33%”. Finally the last possible result would be “Yikes, you failed big time! You got none of the questions correct.”