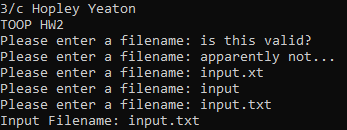
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|  | Homework #2  Selection and Loops |  |

This assignment is worth 20 points. Full Collaboration is authorized, however all work must be your own and you must understand everything submitted.

1. Ensure that you have read the lessons on [cplusplus.com](http://www.cplusplus.com/doc/tutorial/). Your solution should be a Code::Blocks project. All work will be done in one .cpp file. When you are ready to submit (or whenever you would like to save your work), you should “push” your work into your GitHub repository.
2. ([Structure of a program](http://www.cplusplus.com/doc/tutorial/program_structure/)) Write the basic outline of a C++ program.
   1. Write a program that prints your name (3/c Hopley Yeaton) on one line and “TOOP HW2” (without the quotation marks) on the second line.
3. ([Variables and types](http://www.cplusplus.com/doc/tutorial/variables/)) Initialize a few variables for future use. You will need to decide which variable type is best for each file.
   1. Declare and initialize as necessary the following variables
      1. A variable called inputFilename. This is an arbitrary string that we will populate with an input file name or path later on.
      2. A variable called line. This is an arbitrary string that will hold a line read from the input file.
      3. A variable called age. This will be the user’s age in whole number years.
4. ([Basic input and output](http://www.cplusplus.com/doc/tutorial/basic_io/), [Flow control](http://www.cplusplus.com/doc/tutorial/control/)) Request a user’s age and give the user some output depending on what age they entered.
   1. Get the user’s age and store it in your age variable.
   2. Output a message about the user’s age.
      1. If the user’s age is less than 18, tell them the number of years until they can vote.
      2. If the user’s age is greater than or equal to 18 and less than 21, tell them that they can vote.
      3. If the user’s age is greater than or equal to 21, and less than 30 tell them that they can legally drink alcohol.
      4. If the user’s age is greater than or equal to 30, tell them that they run for a seat in the Senate!
5. ([Basic input and output](http://www.cplusplus.com/doc/tutorial/basic_io/), [IO with files](http://www.cplusplus.com/doc/tutorial/files/), [While loops](http://www.cplusplus.com/doc/tutorial/control/)) Request, validate, and store some input from the user.
   1. You will initialize inputFileName from part 4 with the user’s response. However, we want to ensure that the user has entered a valid file name! What better way than with loops?
      1. Initialize an ifstream called myFile.
      2. While the file is not open, do the following
         1. Request a file name from the user.
         2. Assign the input to the inputFilename variable.
         3. Open the given file using myFile.
      3. Print the opened file’s name to the console
   2. Your output may look something like the following:



1. ([IO with files](http://www.cplusplus.com/doc/tutorial/files/), [Statements and flow control](http://www.cplusplus.com/doc/tutorial/control/)) Read five lines from the provided input file, input.txt.
   1. You shall print each line to the console preceded by its line number.
      1. Consider the type of loop you want to use in this case. Although it may be tempting to continue using a while loop, perhaps a for loop is best suited here.
   2. Remember to close your file stream when you are finished.