CS200
(Dr. Naveed Arshad)

Read the handout very carefully.

(Deadline: 29 September, 2017)

Important Guidelines:

1- All your code should be in the file "**evil_hangman.cpp**". You are not supposed to submit more than one file. Just upload it.
2- The statements that you have to display on the console, should have the exact same format as the one displayed in this handout. This is necessary as your grading will be done by an autograder. And if your format is not right, you may not get your due marks. Autograder will be made available to you about four days before the deadline.
3- You are supposed to do this assignment **alone.** Any kind of collaboration, except for discussing what was taught in the class is strictly prohibited.
4- Any case of cheating (if caught) will be reported to the Disciplinary Committee without any delay.
5- Notice that you have to give a different output in case of each code_mode. So it will be better if you make a function for printing, however that's not necessary. Just make sure, you stick with the format.
6- There are some useful links at the bottom of this document. Read them after you completely read the handout.
7- Any assignment which is even one second late, or has any other file except the above mentioned will not be accepted.
8- If your code does not compile, do not argue for the grade.

Evil Hangman

All of you might know about the classical game “Hangman”. In this assignment, you are going to implement an alternate version of this, known as “Evil Hangman”, invented by the Dr. Evil of the Hangman Universe. The people of this universe are crazy about Hangman and the IQ of people are determined by the amount of Hangman Games you have won in your whole lifetime. Dr. Evil wants to proof that he is the most intelligent being, ever born in this world. So he develops this game.

There are two players in the game. One who sets up the game (in other words) chooses the random word and the challenger who tries to guess the word. Your job is to help Dr. Evil set up the game in a way that no one is able to win.

Note: Before you proceed further, I recommend that you have the compiler and coding environment setup complete on your laptop or pcs. For those who use any flavor of linux, you don’t really need to worry.

Dr. Evil asks you to develop a system which will take input from command line in the following way:

For Windows Users:

your_object_file file_name **number_of_words** code_mode

For Linux Users

./your_object_file file_name **number_of_words** code_mode

Dr. Evil divides your task into Three parts (and hence five code modes). You will have to print something different on the console in case of each part (specified by a different code mode). Dr. Evil explains each part as follows:

Part 1 (20 points):

"File_name" corresponds to the name of a text file which contains a list of words, kind of like a dictionary. "Number_of_words" is going to be the number of words in the text file. And code_mode will 1 in case of the part 1.

In this part, you are supposed to read the whole file into a strings array, and then print the array on the console, one word on a line. Like follows:

Hen
Plane
Diagonal

…. And so on, till the dictionary end. This is how you will execute the program for 1st part.

Object_file file_name number_of_words 1

Write a function which performs file reading with the following prototype:

void ReadFile(string dict[], string file_name, int num_words);

Part 2 (50 points):

For part two, you are going to output the number of characters in the word on the screen, in the following way:

Word Length: 4 (this is going to be a random number between 3 and 7).

Now take the user input, **one character** at a time, in the following way:

Enter the character:

If the player enters more than one characters, you will have to raise an error like this:

You entered more than one characters, please try again:

Now comes the main part, whenever user enters a character instead of showing the characters on their designated places in the word, Dr. Evil wants you to remove all the words containing that character from the dictionary. For part two, you are going to display all the remaining words on the screen, after **first valid input**.

Write a function which is responsible for removing all the words with a character from the dictionary array. It would have the following prototype:

void RemoveWords(string dict[], char input, int num_words);

Where num_words is the size of the dict before removing the words.

Part 3 (30 points):

For part three, you are going to extend the part 2 in the following way:

Whenever player enters a character, you are going to remove all the words from the dictionary containing that character. After five turns, you are to stop asking user for input and tell him that he has lost the game in the following way and display him/her the first word in the dictionary of the said length:

You have lost the game, following was the word: “first word in the dictionary”

You don’t need a separate function for this part, just write the code in the main function.

Some Useful Links:

1- http://www.cplusplus.com/doc/tutorial/files/
2- https://www.tutorialspoint.com/cplusplus/cpp_strings.htm
3- https://www.cprogramming.com/tutorial/lesson14.html

Notice while reading the arguments from command line, the prototype of main function changes a little.

Best of LUCK