

ENEB 340 Lab 8 Report

Introduction

The purpose of this lab was to use C concepts like functions, makefiles, and multi-file programming in order to create a program that will simulate the 'Hangman' game. The entire program was split into 3 files called "utils.h", "utils.c", and "myrand.c". The "utils.h" was the header file that contained all the function prototype declarations that were to be defined in the "utils.c" file and used in "myrand.c" file. A separate makefile was used to compile all of these documents together before the execution of the program.

Procedure

1. Raspberry Pi was booted up and all three files were downloaded from the lab manual.
2. The "myrand.c" file was used as the main driver program that would tie all the necessary components together.
3. A pseudocode was written to articulate the numerous distinct parts that are essential to the proper functioning of the game. (see section 'Method').
4. A makefile file was written to connect all the files together and used to compile the final code.
5. Simulated the program and observed the correctness of the program operation.

Method

Pseudocode

- Initialize a wordbank in an array
- Generate a random integer to select a random word in wordbank
- Assign selected word to an empty array
- Declare an empty string that has the same length as word
- Display the random word as a series of dashes to begin with
- Loop 1
 - Prompt user for attempt
 - Compare attempted character to all the characters in the random word
 - For every instance of a match, replace the corresponding dash with that character
 - If there is no match anywhere in the word, decrement the amount of tries by 1
 - Print updated random word to user
- Loop 2
 - If number of attempts equals 0, check if random word is completely revealed
 - If not, notify the user.
 - If it is, congratulate the user.
- Terminate program

Results

```
r374@raspberrypi:~/lab8 $ ./main  
random word #1 selected  
  
-----  
Enter Attempt 7: e  
  
-----e  
0  
|  
  
Enter Attempt 6: r  
  
-----e  
0  
|  
- |  
  
Enter Attempt 5: o  
  
-----e  
0  
- |
```

[illegible]

Figure 1: Test Case Fail Trial (Observe from Left Image to Right Image)

Enter Attempt 5:

In the future I would like to make more fun programs like this that may not be long but require a lot of planning before jumping into compiling.

Figure 2: Test Case #2