Project 2

<Hangman Game>

18FAL-CSC-5-47993
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Date: Dec 10, 2018

Introduction

Title: Hangman Game

This is a hangman game.
It is a two player game where the premise is to have one person decide on a secret word and the other has to guess it using only the letters.
The guessing player may only choose one letter at a time and for each time they decide a letter that isn't in the secret word, the lose a try and a limb is drawn on the hangman.
If the guessing player uses all of their 7 tries, the full hangman is drawn and they lose.
Alternatively, if the guessing player guesses all the letters correctly without using up all of their tries, they win.

Summary

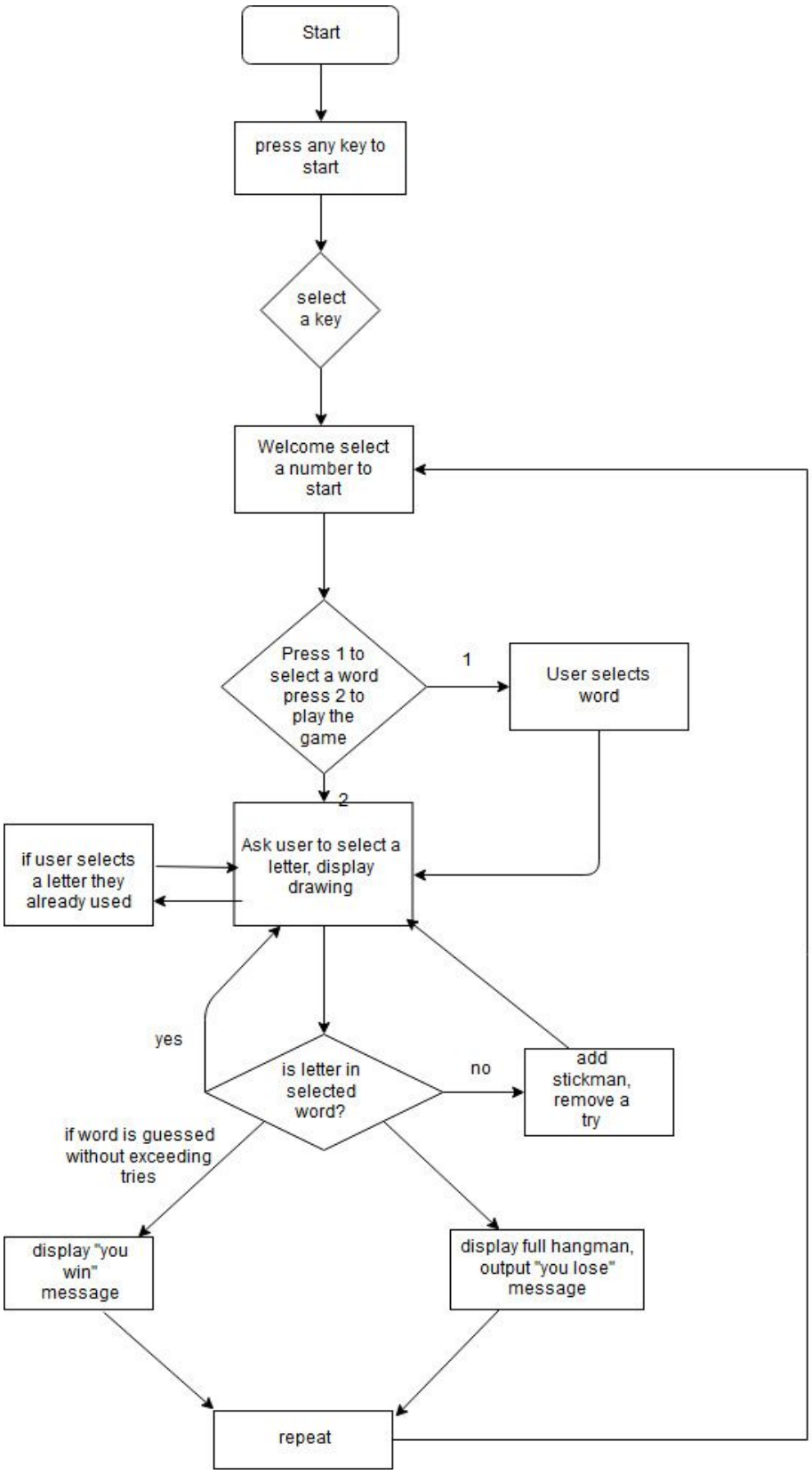
Project Size: 248 lines
Number of Variables: 14

This project is a culmination of what we have been learning for all the past chapters. It includes most of what is covered throughout all the chapters and different ways in which they are utilized.
It also leaves much more room for improvement when we get to the later chapters, i.e adding a word bank that is chosen randomly so you could play solo, a score counter for player 1 and 2.
I feel like I could have done more to utilize all of the concepts in every chapter, although it's a simple game I believe that it has a lot more room for improvement. I hope to utilize all the concepts in later chapters down the line to improve this game.

Description

The hangman game contains an option to type in your own word, and the option to play the game with that selected word.

FLOW CHART


Start
press any key to start
select a key
Welcome select a number to start
Press 1 to select a word press 2 to play the game
1
User selects word
2
Ask user to select a letter, display drawing
if user selects a letter they already used
yes
is letter in selected word?
no
add stickman, remove a try
if word is guessed without exceeding tries
display "you win" message
display full hangman, output "you lose" message
repeat

Pseudo Code

Initialize

Ask user to enter any key
Key is entered
Ask user to select option 1 or option 2
If option 1
Ask user to select a word (for example: Vampire)
Else
Option 2
Play game
Play game
Ask user to enter a letter, display amount of tries left
If user enters a correct letter, add letter to word display (for example if guessed 'a' display _a_ _ _ _ _)Then loop back
Else user enters wrong letter, remove a try, draw a limb of the stick man, loop back
Loop until either
Word is complete, display "You win"
Or
7 Tries are depleted, full stickman is drawn, display "You lose"
Then loop back to option select menu.

Cross Reference for Project 1

You are to fill-in with where located in code

Chapter	Section	Topic	Where Line #"s	Pts	Notes
2	2	cout			
	3	libraries	lines 1-5	8	iostream, iomanip, cmath, cstdlib, fstream, string, ctime
	4	variables/literals			No variables in global area, failed project!
	5	Identifiers			
	6	Integers	lines 13,14,28	3	ints for # of tries
	7	Characters	line 26	3	char represens letters of the word
	8	Strings	lines 15 and 16	3	string is full word
	9	Floats No Doubles	line 30	3	Using doubles will fail the project, floats OK!
	10	Bools	line 52	4	
	11	Sizeof *****			
	12	Variables 7 characters or less			All variables <= 7 characters
	13	Scope ***** No Global Variables			
	14	Arithmetic operators			
	15	Comments 20%+		5	Model as pseudo code
	16	Named Constants			All Local, only Conversions/Physics/Math in Global area
	17	Programming Style ***** Emulate			Emulate style in book/in class repositiory
3	1	cin			
	2	Math Expression			
	3	Mixing data types ****			
	4	Overflow/Underflow ****			
	5	Type Casting		4	
	6	Multiple assignment *****			
	7	Formatting output	line 162-166	4	formatted to certain width
	8	Strings	lines 15-16	3	string for full word
	9	Math Library	line 7	4	All libraries included have to be used
	10	Hand tracing ******			
4	1	Relational Operators			
	2	if	line 52	4	Independent if
	4	If-else	lines 35-40	4	subtracting from counter
	5	Nesting		4	
	6	If-else-if	lines 80 & 92	4	
	7	Flags *****			
	8	Logical operators	line 75	4	
	11	Validating user input		4	
	13	Conditional Operator	line 76	4	
	14	Switch		4	
5	1	Increment/Decrement		4	
	2	While	line 61	4	
	5	Do-while	line 61	4	while both trackers are 0

Cross Reference for Project 2

You are to fill-in with where located in code

Chapter	Section	Topic	Where Line #"s	Pts	Notes
6		Functions			
	3	Function Prototypes		4	Always use prototypes
	5	Pass by Value		4	
	8	return		4	A value from a function
	9	returning boolean		4	
	10	Global Variables		XXX	Do not use global variables -100 pts
	11	static variables		4	28
	12	defaulted arguments		4	
	13	pass by reference		4	
	14	overloading		5	
	15	exit() function		4	
7		Arrays			
	1 to 6	Single Dimensioned Arrays		3	
	7	Parallel Arrays		2	
	8	Single Dimensioned as Function Arguments		2	
	9	2 Dimensioned Arrays		2	Emulate style in book/in class repositiory
	12	STL Vectors		2	
		Passing Arrays to and from Functions		5	
		Passing Vectors to and from Functions		5	
8		Searching and Sorting Arrays			
	3	Bubble Sort		4	
	3	Selection Sort		4	
	1	Linear or Binary Search		4	
****** Not required to show			Total	70	Other 30 points from Proj 1 first sheet tab

Program

```
#include <iostream>
#include <string>
#include <ctime>
```

```
#include<stdlib.h>
#include<windows.h>
#include<iomanip>

using namespace std;


class game
{
	int tries=7;
	int counter;
	string respnse;
	string shown="";

public:
	void reset();
	void drawing();
	void triesL();
	void store(string hWord);
	void addT();
	void fullMan();
};
void game::triesL()
{
	int loop=1;
	char letter;
	float sCountr=0;

	for(int i=0; i<(int)respnse.length(); i++)
	{
	if(isalnum(respnse[i]))
	{
	shown=shown+"-";
```

```
sCountr++;
}
else
{
shown=shown+respnse[i];
}
}
cout<<shown<<endl;

cout<<"What letter do you think is here?"<<endl;
cin>>letter;

for(int b=0; b<(int)respnse.size(); b++)
{
if(respnse[b]==letter || toupper(letter)==respnse[b])
{
shown[b]=letter;
}

}

cout<<shown<<endl;
cout<<"You have "<<tries<<" tries left."<<endl;
while(loop)
{
int tracker=0;
int shownT=0;

cout<<"What letter do you think is here? or enter (?) to leave"<<endl;
cin>>letter;

if(letter=='?')
{
```

```
break;
}
for(int b=0; b<(int)respnse.size(); b++)
{
if(respnse[b]==letter || toupper(letter)==respnse[b])
{
        shown[b]=letter;
        tracker=1;
}
else if(respnse[b]!=letter || respnse[b]!=toupper(letter))
{
        tracker=tracker+0;
}
}

for(int d=0; d<sCountr; d++)
{
if(shown[d]=='-' || shown[d]==' ')
{
        shownT=1;
}
else if(shown[d]!='-')
{
        shownT=shownT+0;
}
}

if(tracker==0)
{
addT();
drawing();
}
```

```
        if(shownT==0 || shown==respnse)
        {
        loop=0;
        cout<<"Secret Word: "<<respnse<<endl;
        cout<<"You win."<<endl;
        reset();
        }
        cout<<shown<<endl;

        if(tries>0 && shownT!=0 && shown!=respnse)
        {
        cout<<"You have "<<tries<<" tries left."<<endl;
        }
        if(tries==0)
        {
        loop=0;
        cout<<"You lose."<<endl;
        cout<<"The word was: "<<respnse<<endl;
        cout<<"Try the game again... Thank you"<<endl;
        reset();

        cout<<endl;
        cout<<endl;
        }

        }
}
void game::store(string x)
{
        respnse=x;
}
void game::reset()
{
```

```
        respnse="";
        shown="";
        tries=7;
}
void game::addT()
{
        tries--;
}
void game::drawing()
{
        if(tries==6 || tries==7)
        {
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |            " <<endl;
        cout << "_|_______________"<<endl;
        }
        else if(tries==5)
        {
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |    \\  " <<endl;
        cout << "_|_______________"<<endl;
        }
        else if(tries==4)
        {
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |    \\ 0 " <<endl;
        cout << "_|_______________"<<endl;
        }
        else if(tries==3)
        {
```

```
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |    \\ 0 /" <<endl;
        cout << "_|_____________"<<endl;
        }
        else if(tries==2)
        {
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |    \\ 0 /" <<endl;
        cout << " |            |"<<endl;
        cout << "_|_____________"<<endl;
        }
        else if(tries==1)
        {
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |    \\ 0 /"<<endl;
        cout << " |            | "<<endl;
        cout << " |            /  "<<endl;
        cout << "_|_____________"<<endl;
        }
        else
        {
        cout << " ____________"<<endl;
        cout << " |            }"<<endl;
        cout << " |    \\ 0 /"<<endl;
        cout << " |            | "<<endl;
        cout << " |            / \\ "<<endl;
        cout << "_|_____________"<<endl;
        }
}
int main()
```

```
{
	game obj;
	int choice;//the bread and butter of the classes letter the user over and over until they get tired
	int loop=1;//used for the while loop below
	char ans='n';//the original condition of the while loop
	string uWord;// the secret word the user enters
	string topic;// the topic for the hangman game

	while(ans=='n' || ans=='N')
	{
	cout<<"Welcome to a game of hangman."<<endl;
	cout<<"Press any key to continue."<<endl;
	cin>>ans;
	system("");
	}
	while(loop)
	{
	cout<<"**********************"<<endl;
	cout<<"1)Select your word *"<<endl;
	cout<<"2)Play game        * "<<endl;
	cout<<"**********************"<<endl;
	cout<<"Your choice here >";
	cin>>choice;
	if(choice==1)
	{
	HANDLE hStdin = GetStdHandle(STD_INPUT_HANDLE);
	DWORD mode = 0;
	GetConsoleMode(hStdin, &mode);
	SetConsoleMode(hStdin, mode & (~ENABLE_ECHO_INPUT));
	cout << "Type out the desired word and press enter." << endl;
	cin.ignore();
	getline(cin,uWord);
```

```
        SetConsoleMode(hStdin, mode);
        obj.store(uWord);
        cout<<"Your word has been entered."<<endl;
        cout<<endl;
        cout<<endl;
        }

        else (choice==2);
        {
        obj.triesL();
        }

        }

}
```