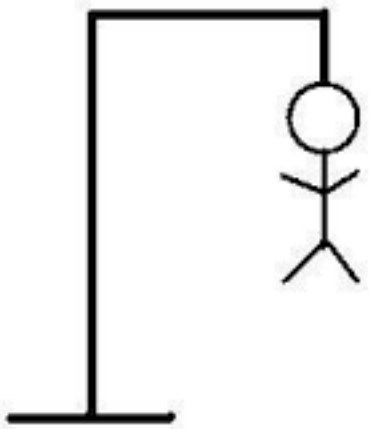
Project 1
Hang Man



CIS-17C
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Jun 8, 2021

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1. Introduction

1.1 The purpose

Hangman is a paper and pencil guessing game for two or more players. One player thinks of a word, phrase or sentence and the other tries to guess it by suggesting letters within a certain number of guesses

1.2 Project Statistics

Code Lines	560
Mixed code and Comment Line	150
Blank Lines (White Space)	69
Total number of Lines	779
Number of Classes	2
Number of member variable	27
Number of member function	32

1.3 Where to find the game

You can find the game on GitHub and can be accessed by clicking here.

2.Approach to Development

2.1 Concepts

1.1.1 Object-Oriented Programming (Classes)

The breaking down of the game components where through the use of smaller objects controlled to implement in the development of the game “HangMan”. The use of classes simplified connections and interactions between different components, if the code needed information, classes were excellent to return the name of the player, his name, even to obtain information of the player, any issue can be located and identified relatively quickly.

1.1.2 The standard Template Library (STL)

STL is a commonly way to use data structure, and different algorithms without the necessary to write the from zero, STL containers, functions, algorithms and iterators were used throughout the project. I included Trees, and included the code for it.

2.2 Version Control

1.1.3 ProjectV1.0

In the V1.0, I programmed and tested all the components, I didn’t use different versions, I programmed and tested all the components on the same control version. Playing the game, allowed me to find bugs, and errors, usually all of them with logical issues.

3.Rules and Gameplay

3.1 Hangman Rules

Hangman is a quick and easy game for at least two people that requires nothing more than paper, a pencil, and the ability to spell. One player, the "host," makes up a secret word, while the other player tries to guess the word by asking what letters it contains. However, every wrong guess brings them one step closer to losing.

3.2 The gameplay

3.2.2 The login screen

The login screen is the first I/O the user encounters, it has a functionality to start a new game, or quit the game.

```
--------------------------------------------------------------------------------
                                Welcome to Hanged
--------------------------------------------------------------------------------
                                 1. New Game
                                   2. Quit
--------------------------------------------------------------------------------
```

3.2.3 The player screen

This is the user screen where you can interact and look the size of the word, the words that you have entered and the hanged man

```
The turn of: fede
                                                +---+
                                                |   |
                                                    |
                                                    |
                                                    |
                                                    |
                                               ============


                                          _ _ _ _ _
Letters already use:
Try a letter :
```

4.Checkoff Sheet

4.1 Container Classes

1.2 Associative Contaziners

- Set: I used it to order the positions corresponding to each fibonnaci result.
- Tree: I used it to store all the players.

1.3 Container

- Queue: I used to switch turns between players.

4.3 Algorithms

3.1 Non-mutating algorithms

- For_each: I used to print all the players.

3.2 Mutating algorithms

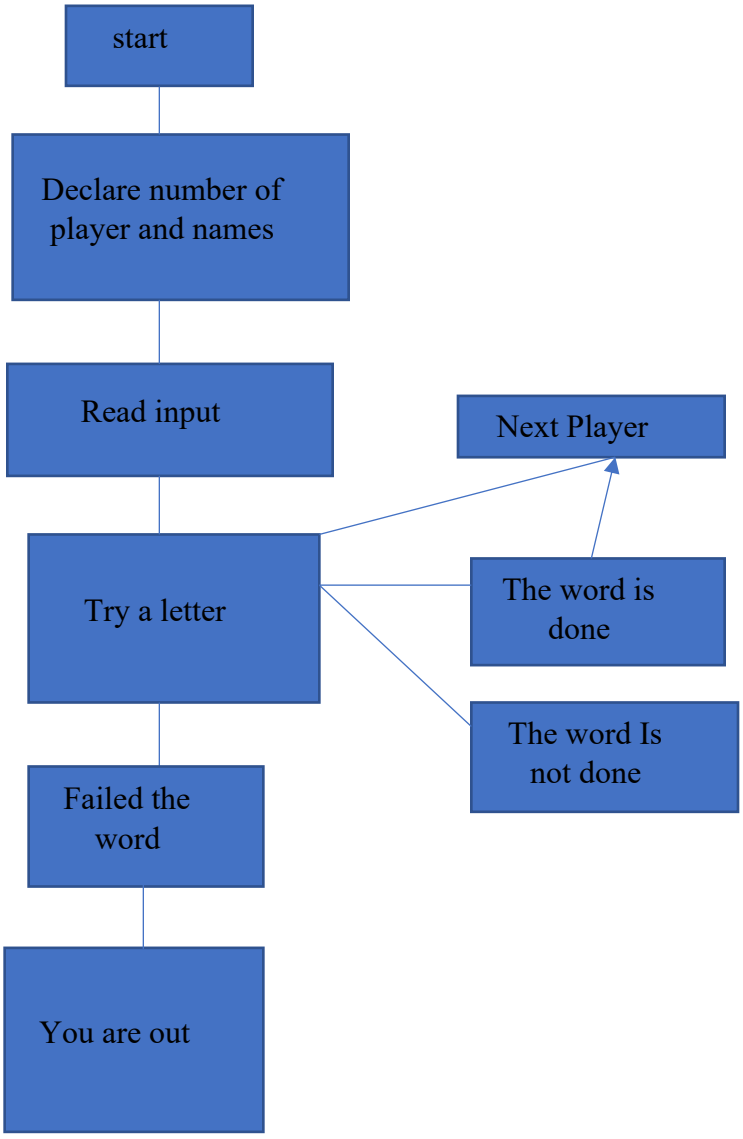
- Random_device: I used it to generate a uniformly distributed integer random number generator that produces non-deterministic random numbers.

3.3 Organization

- Recursive Sort: To order the words.

5.Documentation

5.1 Flowchart



5.2 Pseudo-Code

New Game Procedure HangMan

We display the main menu

We Ask for number of players and their name

We create objects using the information

Randomly select who is going first

Procedure HangMan

We display player's menu

We ask it for a letter.

Depending if it is good or not is going to appear in the phrase, or parts of the hanged man will appear.