



Procedural Programming Project 2018

Your project is to write a program that implement the game called “Twenty Five” which is outlined below.

Game Overview

Twenty-five is played with a standard 52-card deck, usually by four to six players.

Firstly, each player receives five cards and the next card is turned face-up to establish the trump suit.

The normal ranking of cards from high to low is K, Q, J, 10, 9, 8, 7, 6, 5, 4, 3, 2, A in red suits and K, Q, J, A, 2, 3, 4, 5, 6, 7, 8, 9, 10 in black suits ("high in red, low in black").

In trump suits, the highest is always the five, followed by the jack, the ace of hearts (regardless of the nominal trump suit), the ace of the trump suit (if not hearts), and the remaining cards in their usual ranking order according to color.

How the game is played

The primary object of the game is get to a target score of 25 before any other player – this may require more than one deal. The winner each iteration, where each player plays one card, counts five points

Robbing

- Any player dealt the ace of trumps may, if desired, "rob the pack" before playing their first card by taking the face-up card and discarding an unwanted card

facedown.

- If the face-up card is an ace, the dealer may rob the pack by exchanging it for any unwanted card from his hand.

In this version of game, the first player to play on the first iteration is chosen at random. From then on the winner of the previous cycle will lead the next cycle.

If the first player plays a card of the trump suit, the other players must follow suit if possible, unless the only one held is one of the top three trumps (five, jack, ace of hearts) and is higher than the one played. In this case that player may "renege" by discarding from another suit.

If the first play a card of a different suit, the others may follow either that suit or the trump suit, as preferred, but may discard only if unable to follow suit. The trick is taken by the highest card of the suit led or by the highest trump suit if any are played.

The game ends when a player reaches 25 points.

How the program should operate:

- Every time a new game is created, the program should ask how many players are playing and the player's cards should then be randomly generated.
- If a saved game is loaded, then the program should display the status of the game.
- Once the game is loaded the users should be presented with a number of options at the end of each round:
 - Complete the next round – in which each player select a card.
 - Save the game
 - Output the games status
 - Exit the game without saving -Selecting this option exits the game but you are then given the following options:
 - Open a new game
 - Open a previously save game
 - Exit the application

Project Submission

Each student should submit the code developed to support the game. In addition to the code each student should submit a document explaining the various design decisions that were made during the project and how their code works. Finally, a screencast should be included in the submission demonstrating the **complete** functionality of the solution.

Submission Deadline

Project Submissions to be submitted to martin.hynes@gmit.ie by 5pm on the 4th January 2019

Points to Note

- Comments expected.
- Good programming practice is expected
- Ensure that any files that are needed to run the program are included in your submission.
- Your code has to run. Serious deduction of marks will occur for code that is not running correctly.
- Plagiarism is not acceptable.
- You may be asked to present your code/application