Project 1

Title

Monopoly\*

\*A text-based computer replica of the

well-known classic boardgame –

for educational purposes only

Course

**CSC-5 Programming Concepts and Methodology I: C++**

Section

**40514**

Due Date

**May 3, 2020**

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# Basic Gameplay

The original Monopoly game (currently trademarked and published by Hasbro) on which this game program is based, is suitable for 2 to 8 players. However, due to time constraints and restrictions on the use of functions and arrays, as well as for the consideration of having readable code, this game program is restricted to two players: the human user (player 1) and the computer (player 2).

# Properties

In the original Monopoly game, players may buy and sell properties, mortgage them when additional funds are needed, build houses and hotels on them, obtain regional monopolies, and charge rents for owned properties that vary accordingly with each of the aforementioned conditions. These abilities are not enabled in the game I have produced. Instead, in this game, all properties are “randomly” assigned to one or the other of the players prior to the start of gameplay. During the game, players will charge rent fees to other players who land on their owned properties. The value of each property is different and the rent to be charged varies according to location.

# Go to Jail & Get Out of Jail

There are three ways to end up in jail: landing on the Go to Jail space, rolling three doubles in a row during one turn, and drawing a Chance or Community Chest card that tells you to Go to Jail. As soon as a player lands in jail, their turn is over. While they are in jail, they continue to collect rent fees as appropriate.

There are similarly three ways that a player can get out of jail: pay $50 on their next turn, use a Get Out of Jail Free card, or wait for up to 3 turns. If they choose to pay $50 or use a Get Out of Jail Free card, they will roll the dice and move out of jail the number of spaces indicated on their dice. If they choose to wait for 3 turns and try to get out of jail without spending money or a Get Out of Jail Free card, they must roll the dice at each turn. If they get doubles, they are free from jail and move their piece using the value of their roll. However, if they do not get doubles by the end of their third turn, they are required to pay $50 to get free from jail and then move their piece using the value of their third turn roll.

Due to the subtle nuances of choosing the right places to place various pieces of code, I had a difficult time with this part of the game, particularly getting the player out of jail. I spent several hours trying to get this to work right. However, there are no versions to show prior to the “Go to Jail v1” code that will be available for you to peruse. This is because I did not have a working code until I finished writing “Go to Jail v1”, which, as I said, was the product of several hours of work (~5).