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Project Writeup

Introduction

The game I worked on is my implementation of Monopoly in C++. The goal of this project was to create a working version of the classic Monopoly board game, implementing core game mechanics like property transactions, player turns, and special events such as Chance and Community Chest. I chose Monopoly because of its complexity and the opportunity it gave me to apply object-oriented programming concepts, particularly around managing game state, player actions, and game rules. I spent approximately a month brainstorming, coding, and refining my game. The code consists of roughly 800 lines of code and contains 7 classes, including classes for the Board, Property, Deck, and Player.

Github Link: https://github.com/enzoCayetano/MonopolyGame

Approach to Development

Version Control

I used Git and NetBeans in-built version control throughout the project. Most of the project's commit history can be found within the NetBeans file history.

Game Rules

A customizable amount of players can roll dice to move around the board. Players can purchase property, pay rent, and manage their finances. Special squares such as

Chance and Community Chest can be moved onto, and have unique events that can be triggered when a player wishes to do so. Players are eliminated when they go bankrupt. The game ends after a certain number of turns or when one player remains.

Code Organization

I organized my project into multiple classes to make my code readable and easy to maintain in the future. The *Board* class manages the properties, spaces, and rules of the board. The *Player* class stores player information, including money, properties, and current position. The *Property* class represents the individual properties on the board, with information like price, rent, and ownership. The *MonopolyGame* class controls the main game loop, including player turns and dice rolls. Special events such as Chance or Community Chest cards are handled in their own respective classes.

Input/Output

The game is mainly handled with options. The player is given options on whether to end their turn or use a Chance/Community Chest card.

Input: “End my turn.”

Output: “You rolled a 5! You landed on Boardwalk. Would you like to buy it for $400?”