**1/30/2024**

**Introduction**

Welcome to Pac-Man version 1.0 game, developed in C++. This game was created as part of a game development project. In this rendition of Pac-Man, players navigate through a maze, collecting pellets and avoiding ghosts. The game is built using standard C++ libraries, showcasing the versatility and power of C++ in game development.

**Summary**

The Pac-Man game is a console-based application where the player controls Pac-Man in a 20x10 grid representing the game maze. I tried bigger sizes but anything bigger tends to glitch the screen. The maze contains pellets represented by dots ('.') that the player needs to collect to increase their score. The player's objective is to collect all pellets while avoiding a ghost, represented by 'G', moving randomly in the maze. The player has a limited number of lives, and the game ends if the player loses all lives or collects all pellets.

**Description**

**Key Features:**

**Game Board:** A 20x10 grid where '#' represents the walls, spaces are empty areas, and '.' are pellets.

**Player Movement:** The player can move Pac-Man using the 'w', 'a', 's', 'd' keys for up, left, down, and right movements, respectively.

**Score and Lives:** The game keeps track of the player's score, which increases with each pellet collected, and the number of lives.

**Ghost Movement:** A ghost moves randomly in the maze, creating a challenge for the player.

**Technical Overview:**

**InitializeGame:** Sets up the game board, player, and ghost positions, and initializes score and lives.

**DisplayBoard:** Renders the current state of the game board in the console.

**GetInput:** Handles player input for movement.

**UpdateGame:** Updates the game state, including player and ghost positions, and checks for pellet collection.

**MoveGhosts:** Handles the logic for the ghost's movement.

**CheckWinLose:** Determines the game's end condition, either by winning (collecting all pellets) or losing (running out of lives).

**EndGame:** Displays the game over message and concludes the gameplay.

I really love Pac-Man since I was a kid so making this game was kind of cool. Hopefully it showcases some functions, loops, and decisions in C++. In the game, you get to move Pac-Man around, collect dots, and avoid a ghost. As you play, you'll see how loops (which repeat actions), conditionals (which make decisions), and data structures (which organize information) are used in building the game.

**Bugs:**

* Ghosts eats some of the dots whenever I move Pac-Man. This shouldn’t happen.
* The score is not changing whenever Pac-Man is eating the dots.
* When you run out of lives you start going into a negative count of lives. Unlimited lives.
* Once the previous bug is fixed I’ll need to create a nice game over message.