**Title: Pong Game Manual**

**I. Game Manual**

1. Overview: Pong is a famous arcade game in which two players use paddles on opposing sides of the screen to knock a ball back and forth. The goal is to get the ball past the opponent's paddle and earn points.
2. Controls:

Player 1:

* W: Move paddle up
* S: Move paddle down

Player 2:

* Up arrow: Move paddle up
* Down arrow: Move paddle down

Spacebar: Pause and unpause the game

Scoring: Each time a player gets the ball past their opponent's paddle, they score a point. The first player to reach the winning score of 5 points wins the game.

1. Game over: When a player reaches the winning score, the game displays the winner and the game over message. The game then resets after a few seconds, and the players can start a new game.

II. Class Diagram:

+----------------+ +----------------+ +------------+

| PongGame | | Paddle | | Ball |

+----------------+ +----------------+ +------------+

| -screen\_width |<>----| -rect | | -rect |

| -screen\_height | | -speed | | -speed |

| -paddle\_width | +----------------+ | -dx |

| -paddle\_height | | +move\_up() | | -dy |

| -paddle\_speed | | +move\_down() | +------------+

| -ball\_size | +----------------+ | +move() |

| -ball\_speed | | +bounce\_horizontal()

| -winning\_score | | +bounce\_vertical()

| -frame\_rate | +------------+

| -WHITE |

| -BLACK |

| -player1\_score |

| -player2\_score |

| -paused |

| -screen |

| -font |

| -player1 |

| -player2 |

| -ball |

| -clock |

+----------------+

| +display\_text()|

| +reset\_ball() |

| +play() |

+----------------+

III. Original Creator's Contribution and Innovative Aspects:

The original Pong game concept is used in this Pong implementation. The code is a new implementation that makes use of the Pygame library and makes no reference to any previous implementations or the DroneInvasion project.

• The usage of the Pygame library for a simpler and more efficient code structure is one of the game's distinctive features.

• A pause function using a spacebar that allows players to halt and continue the game.

• An adjustable winning score and paddle speed for customizable gameplay.

IV. Work Distribution:

This project was completed by me.