

# BOUNCE 2

## **Introduction:**

Bounce the Ball is an engaging arcade-style game where the player controls a ball trapped in a world filled with thorns and oncoming bricks. The objective is to keep the ball alive by avoiding collisions with thorns and bricks for as long as possible while the game's difficulty gradually increases over time.

## **Game Description:**

The game starts with the player being introduced to the premise: the ball is trapped in a thorn-infested world and must stay alive by avoiding collisions with thorns and bricks thrown by the enemy, Bob. As time progresses, the frequency of bricks thrown by Bob increases, making the game more challenging.

## **Controls:**

The player can control the movement of the ball using the switches on the board. Switch '1' moves the ball down, while switch '2' moves it up. By strategically using these switches, the player can navigate the ball through the obstacles and survive for longer periods.

## **Scoring:**

The player's score increases continuously as long as the ball stays alive. The longer the ball survives without colliding with obstacles, the higher the score.

## **Gameplay Instructions:**

1. Press button 1 to start the game.
2. Use switches '1' and '2' to control the ball's movement and navigate it through the obstacles.
3. Avoid collisions with thorns and oncoming bricks to keep the ball alive.
4. Survive for as long as possible to achieve a higher score.

## **Code Description:**

1. Initialization: The game environment is initialized, including setting up memory-mapped I/O for switches and keys.

2. Game Loop:

- The game operates in a continuous loop, updating the game state and graphics based on user input and obstacle movement.
- It continuously checks for input from switches to control the ball's movement.
- The game also handles collision detection between the ball and obstacles, ending the game if a collision occurs.

3. Graphics and Display:

- Basic graphics operations are used to draw shapes like circles, rectangles, and lines to represent the ball, obstacles, and background.
- Different colors are used to differentiate between various elements on the screen.

4. Input Handling:

- The code continuously checks for input from switches and buttons to control the game's flow, including starting and restarting the game.

5. Scoring Mechanism:

- The player's score increases continuously as long as the ball remains alive without colliding with obstacles.

6. Obstacle Generation:

- Bricks are generated and thrown towards the ball at regular intervals, with the frequency of brick throws increasing over time to increase the game's difficulty.

Conclusion:

Bounce the Ball is a challenging yet addictive arcade-style game that tests the player's reflexes and strategic thinking. With its simple controls,

engaging gameplay, and escalating difficulty, it offers hours of entertainment for players of all ages.