
PONG GAME
INSERT COIN TO START

MISSION BRIEFING

OBJECTIVE: Build a clone of the legendary 1972 arcade game "PONG" using Python.

- Simulate 2D physics.
- Implement AI opponent.
- Master the Game Loop.

REQUIRED MODULES

TURTLE

Graphics & Sprite Animation library.

TIME

Frame rate & Timer management.

WINSOUND

Beeps & Boops audio feedback.

CODE ARCHITECTURE

The entire game logic is encapsulated in a single Class structure.

- `class PONG:`
- `def __init__`
- `def create_window`
- `def game_loop`

THE GRID SYSTEM

SCREEN RESOLUTION: 800x600

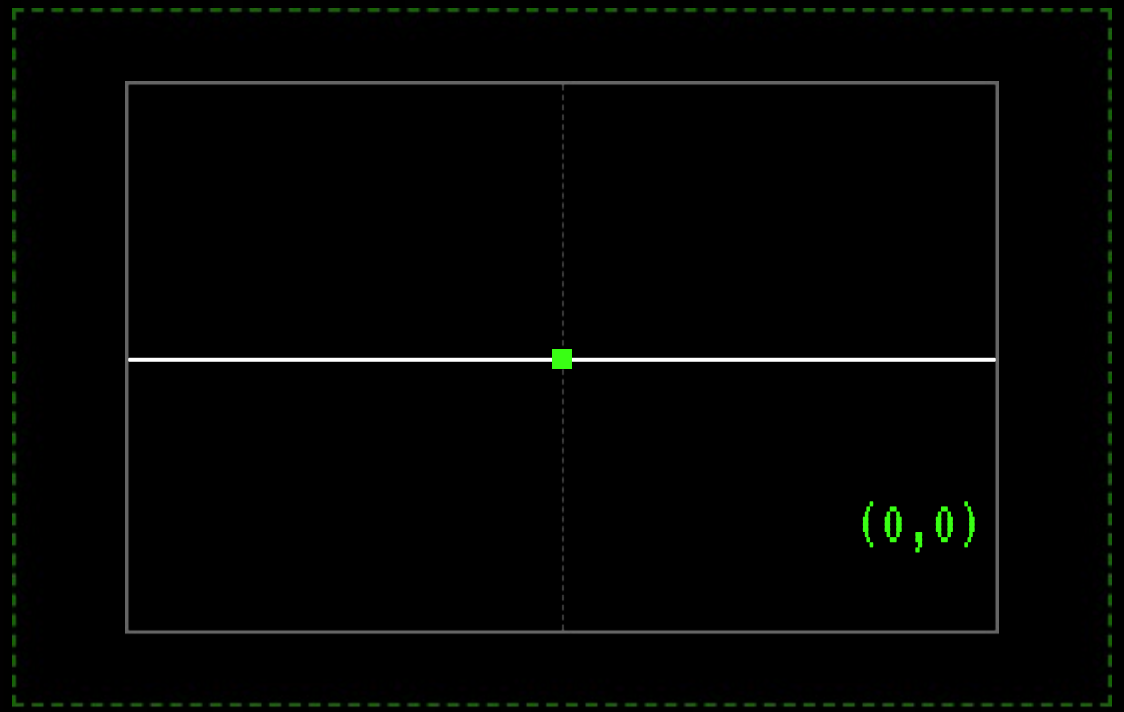
Center Point: `(0, 0)`

Left Wall: `X = -400`

Right Wall: `X = +400`

Top Ceiling: `Y = +300`

Bottom Floor: `Y = -300`



GAME LOGIC

PADDLE_A (PLAYER)

Controlled via Keyboard Interrupts.

`root.onkeypress(up, "w")`

`root.onkeypress(down, "s")`

PADDLE_B (CPU)

Automatic Tracking AI.

IF `ball.y > paddle.y`

IF `ball.y < paddle.y`

PHYSICS ENGINE

VELOCITY

Update position every frame.

X += dx

Y += dy

REFLECTION

Hit Wall?

dy *= -1

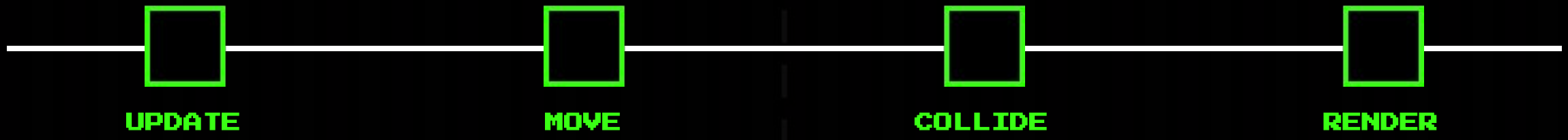
Hit Paddle?

dx *= -1

LIMITS

Clamp paddle position to prevent leaving screen area.

THE INFINITE LOOP




```
while True: game.update()
```

GAME STATS

60

SECONDS

03

DIFFICULTY LEVELS

SOURCE CODE

```
def game_loop(self):
  while True:
    self.root.update()
    self.ball.setx(self.ball.xcor() + self.ball.dx)
    # Check Collision
    if self.ball.ycor() > 290:
      self.ball.dy *= -1
```

GAME OVER

YOU WIN!

PROJECT COMPLETED SUCCESSFULLY