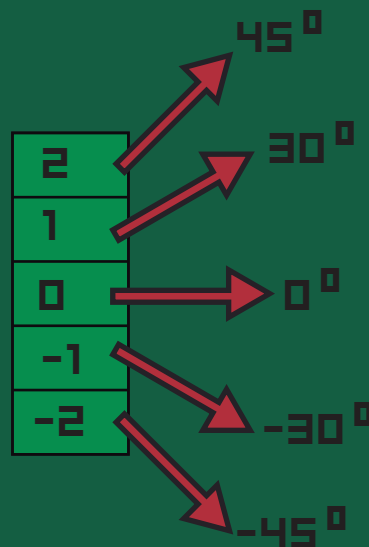# PONG AI

GAME RULES

- THE BALL ALWAYS STARTS AT THE CENTER OF THE SCREEN.
- THE CPU PADDLE ALWAYS STARTS AT THE CENTER OF THE SCREEN.
- IN THE BEGINNING THE BALL WILL GO TO THE RIGHT OR TO THE LEFT.
- THE PADDLE HAS 3 ANGLE SEGMENTS, 0, 30 AND 45 DEGREES.
- THE CLOSER TO THE CENTER OF THE PADDLE THE FASTER THE BALL WILL GO.
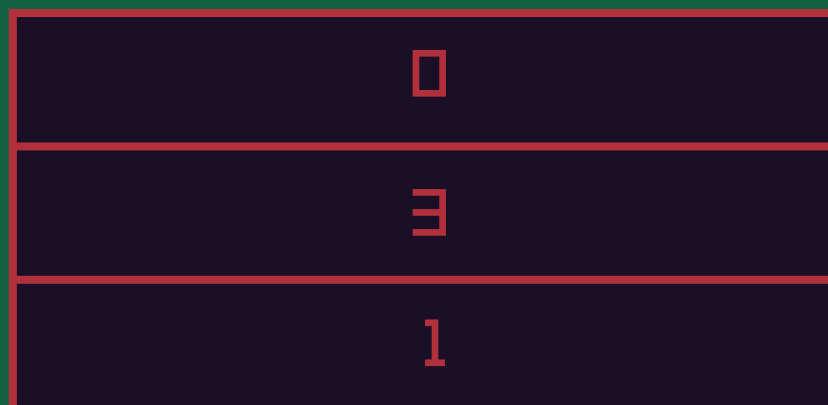- IF SOMEONE SCORES, THE SCENE WILL RESTART.

THE PADDLES ARE DIVIDED IN 5 SEGMENTS

Segment	Angle
2	45°
1	30°
0	0°
-1	-30°
-2	-45°

AI DESIGN

- WE CALCULATE DE "Y" DISTANCE BETWEEN PLAYER AND CPU
IF THE DISTANCE IS 0 THE CPU WILL TRY TO THROW THE BALL SIDEWAYS
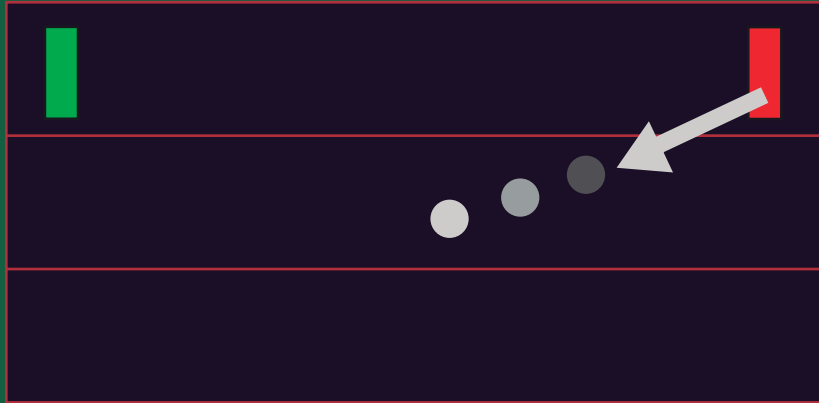IF NOT THE CPU WILL THROW STRAIGHT.   " SENSE -THINK - ACT "

WE'D DIVIDED THE GAME SCREEN IN 3 ZONES

0
3
1

PONG AI

IF THE "Y" DISTANCE BETWEEN PLAYER AND CPU IS 0, AND WE ARE IN ZONE 0 THE AI WILL TRY TO HIT THE BALL WITH SEGMENT -1 OR -2.

CASE 2

IF THE "Y" DISTANCE BETWEEN PLAYER AND CPU IS 0, AND WE ARE IN ZONE 3 THE AI WILL TRY TO HIT THE BALL WITH SEGMENT -1 OR 1.

50%.

CASE 3

IF THE "Y" DISTANCE BETWEEN PLAYER AND CPU IS 0, AND WE ARE IN ZONE 1 THE AI WILL TRY TO HIT THE BALL WITH SEGMENT 1 OR 2.