8×8 LED MATRIX – MIDTERM PROJECT

C8 C7 R2 C1 R4 C6 C4 R1

D2 D3 D4 D5 D6 D7 D8 D9

LED matrix mapping struggles

R5 R7 C2 C3 R8 C5 R6 R3

D10 D11 D12 ~~A1~~ ~~A2~~ ~~A3~~ ~~A4~~ ~~A5~~

~~A0~~ ~~A1~~ ~~A2~~ ~~A3~~ ~~A4~~

D13 A2 A3 A4 A5

p = 1

+1 right

p = 2

3, 4, 5 lit up

POTENTIOMETER

p + 2

paddle + 2 → OFF

left - A0

~~up~~ - A1

~~down~~ - A6

right - A7

} 2 switches padde = 0 (didn't work)

0 + 0 = 0

1 + 0 = 1

1 + 1 = 2

1 + 2 = 3

random paddle logic everywhere

SCRAPPED

w = 8

h = 8

snake [64] [2]

snakeLen = ~~x~~ 3

headx = 4

heady = 4

applex =

appley =

paddle = 0

1, 2, 3

paddle = ~~7~~ 5

~~x~~ 4

p = ~~7~~

4 5 6

-1 +1 -1 +1

+1 -1 -1 +1

-y +y

+x +x

x x x x x x

p

"OK" message

"O"		"K"		decoding hex
0x7E	01111110	0x63	01100011	
0xe7	11100111	0x66	01100110	↓
0xc3	11000011	0x6c	01101100	
	11000011	0x78	01111000	
	11000011		01101100	
	11100111		01100110	
	01111110		01100011	
			01100001	

USER TESTING

→ fun, interactive game ☺

→ rotating potentiometer is difficult >:(

→ good at implementing collision detection

→ additional breadboard good for grip

→ good speed but could increase challenge by incrementing speed + randomizing position of ball

GAME DESCRIPTION

use the blue dial to control the horizontal movement of a 3-unit long paddle. the paddle is bounded to the last row and cannot go beyond the left + right edges. a ball will spawn in the top left and descend. keep the ball away from the bottom edge with your paddle. it can collide and bounce off the left, top, and right edges. if you miss, a "game over" message will appear.