Testcases for CS301 programming assignment 1

testcases maker: Zheng Zubin

date: 2023/10/30

Part1:

(1) Decode mode:

input: `10101001111010001011111001001011`

expected observation results:

LCD output: `welcome`

LED output:

	1	**0**	**1**	**0**	**1**	**0**		**0**	**1**	**1**		**1**	**1**	**0**	**1**	**0**		**0**	**0**	**1**
LED0		1		1		1	2	1			2			1		1	2	1	1	
LED1	1		1		1		2		1	1	2	1	1		1		2			1

	0	**1**		**1**	**1**	**1**	**0**		**0**	**1**	**0**	**0**	**1**		**0**	**1**	**1**		
LED0	1		2				1	2	1		1	1		2	1			2	
LED1		1	2	1	1	1		2		1			1	2		1	1	2	

(2) Encode mode:

input: `pumpkin`

expected observation results:

LCD output: `10101110011010011010110010000011001011`

LED output:

	1	**0**	**1**	**0**	**1**	**1**		**1**	**0**	**0**	**1**	**1**		**0**	**1**	**0**	**0**	**1**	
LED0		1		1			2		1	1			2	1		1	1		2
LED1	1		1		1	1	2	1			1	1	2		1			1	2

	1	**0**	**1**	**0**	**1**	**1**		**0**	**0**	**1**	**0**	**0**	**0**	**0**		**1**	**1**	**0**	**0**
LED0		1		1			2	1	1		1	1	1	1	2			1	1
LED1	1		1		1	1	2			1					2	1	1		

		1	0	1	1													
LED0	2		1			2												
LED1	2	1		1	1	2												

Part2:

(1) Exception handling:

- Decode mode:

input: `111110011011111`

expected observation results:

LCD output: `TUE Decode Error: 111`

LED output:

	1	1	1	1		1	0	0	1	1		0	1	1		111		
LED0					2		1	1			2	1			2	turn on		
LED1	1	1	1	1	2	1			1	1	2		1	1	2	3		

- Encode mode:

input: `@CS301`

expected observation results:

LCD output: `Encode Error: @ 001011000 Encode Error: 3 Encode Error: 0 Encode Error: 1`

LED output:

	@	0	0	1	0	1		1	0	0	0		3	0	1
LED0	3	1	1		1		2		1	1	1	2	3	3	3
LED1	turn on			1		1	2	1				2	turn on	turn on	turn on

(2) Case insensitive and trim blank characters in Encode mode:

input: `L or R`

expected observation results:

LCD output: `11010111001010101`

LED output:

	1	**1**	**0**	**1**	**0**		**1**	**1**	**1**	**0**		**0**	**1**	**0**	**1**		**0**	**1**	**0**	**1**	
LED0			1		1	2				1	2	1		1		2	1		1		2
LED1	1	1		1		2	1	1	1		2		1		1	2		1		1	2

(3) Show decode and encode progress:

- Decode mode:

input: `1010010001111`

expected observation results:

LCD output:

`%2023/10/30 10:33:02% B`

`%2023/10/30 10:33:10% A`

`%2023/10/30 10:33:15% T`

LED output:

	1	**0**	**1**	**0**	**0**	**1**		**0**	**0**	**0**		**1**	**1**	**1**	**1**				
LED0		1		1	1		2	1	1	1	2					2			
LED1	1		1			1	2				2	1	1	1	1	2			

- Encode mode:

input: `CANDY`

expected observation results:

LCD output:

`%2023/10/30 10:38:57% 00101`

`%2023/10/30 10:39:04% 000`

`%2023/10/30 10:39:09% 1011`

`%2023/10/30 10:39:15% 11011`

`%2023/10/30 10:39:22% 10010`

LED output:

	0	**0**	**1**	**0**	**1**		**0**	**0**	**0**		**1**	**0**	**1**	**1**		**1**	**1**	**0**	**1**	**1**
LED0	1	1		1		2	1	1	1	2		1			2			1		
LED1			1		1	2				2	1		1	1	2	1	1		1	1

		1	**0**	**0**	**1**	**0**												
LED0	2		1	1		1	2											
LED1	2	1			1		2											