

COMP9032_18S2_Project

User manual

Board settings:

Connect LCD Data PINs D0-D7 to PORTF PF0-PF7.
Connect LCD Control PINs BE-RS to PORTA PA4-PA7.
Connect cup LEDs PINs 0/1/2 to PORTL PINs 4/3/2.
Connect PORTC PC0~PC3 to Key Pad PINs C3~C0.
Connect PORTC PC4~PC7 to Key Pad PINs R3~R0.
Connect PORTB PB0~PB3 to LED6~LED9 as Result Indicator.
Connect PB0/PB1 to PIND0/PIND1.
Connect Mot PIN to PORTE PE5.

1. After the lab board is powered on,
“Ready...” is displayed on LCD and an arbitrary LED is on.
2. Push button PB0 for Motor start spin,
Push button PB1 for Motor stop spin.
3. After pressing PB0, “Start...” is displayed on LCD, and motor start spins, and three cup LEDs in dimmed light as cover of three balls.
4. After pressing PB1, motor stops, cup LEDs still in dimmed light, if keypad was pressed, the dimmed cover will be removed, and ball position is showed and the score is determined. In my design, I use first column represent LED0 position, second column represent LED1 position, third column represent LED2 position. And if guess is correct, score will be increased by 1 and indicator will flash 3 times, else, score will be decreased by 1, and if score equal to 0, the game will restart.