
ECE 375 PRELAB 2

Lab Time: Friday 16:00 ~ 17:50

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QUESTIONS

1. Suppose you want to configure Port B so that all 8 of its pins are configured as outputs. Which I/O register is used to make this configuration, and what 8-bit binary value must be written to configure all 8 pins as outputs?

(a) Data Register (PORT B register) is used to make the configuration.

(b) The 8-bit binary value, 11111111, must be written to configure all 8 pins as outputs.

2. Suppose all 8 of Port D's pins have been configured as inputs. Which I/O register must be used to read the current state of Port D's pins?

Input pins(=registers) (PIN D register) must be used to read the current state of Port D's pins.

3. Does the function of a PORTx register differ depending on the setting of its corresponding DDRx register? If so, explain any differences

The function of a PORTx register differs depending on the setting of its corresponding DDRx register. When pin is configured as input, DDRx register latches zero, and the PORTx register latches 1 in order to activate pull-up register. When the pin is configured as output, DDRx latches 1, and PORTx outputs the data by being latched 1.

REFERENCE

Ben Lee, Computer Organization and Assembly Language Programming: Embedded Systems Perspective (pp. 129-133)