



Module 14

Activity: I/O Triggered Interrupts



Activity: I/O Triggered Interrupts

Question 1

Write C code that counts the number of times an input on P2.7 goes from 0 to 1. Show the initialization and the ISR

```
void Input_Init(void);
void PORT2_IRQHandler (void);
```

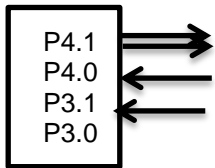


P2.7
This results in count becoming 6.

Question 2

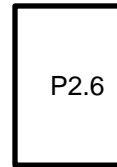
You have two inputs and two outputs. P4.1 and P4.0 are outputs, initially low. Assume you have two positive logic switches interfaced to P3.0 and P3.1. Write software that sets P4.1 high if the rising edge of P3.1 occurs first, and set P4.0 high if the rising edge of P3.0 occurs first. After the first interrupt, disarm edge-triggered interrupts so no more interrupts occur. Show the initialization and the ISR

```
void Input_Init(void);
void PORT3_IRQHandler (void);
```



Question 3

Assume you have a negative logic switch connected to P2.6. You wish to count the number of times the input on P2.6 goes from 1 to 0. The trouble is the switch bounces (has multiple edges each time the switch is pressed and each time the switch is released). You must use interrupts. However you may use interrupts in any manner you choose to solve this problem. The bounce finishes within 1ms, and the switch is pressed for at least 100 ms and released for at least 100 ms (max touch rate is 5 touches/sec). Show the initialization and the ISR



Question 4

Write C code that sets the priority of a Port 4 edge-triggered interrupt to level 5.

Question 5

Write C code that enables a Port 4 edge-triggered interrupt in the NVIC.

Question 6

Write C code that enables a Port 4 edge-triggered interrupt in the NVIC

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