

Unit 7 - Week 5

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

 Physical Interfacing -1 Physical Interfacing -2 Physical Interfacing -3 Feedback Form Quiz : Assignment 5

Week 6

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-10-21, 23:59 IST.

1) Which of the following is not an input device? 1 point

- DIP switch
 Microphone
 LCD
 Light sensor (LDR)

No, the answer is incorrect.
Score: 0

Accepted Answers:
LCD

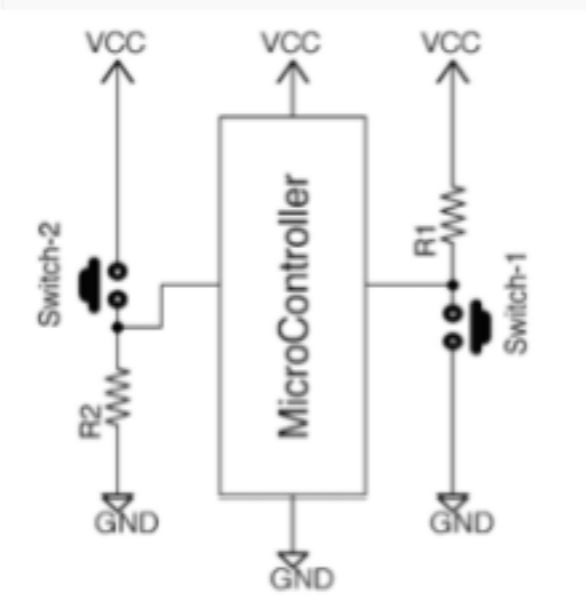
2) Which kind of switch should be preferred when more than two outcomes/states of a switch are needed? 1 point

- Toggle switch
 DIP switch
 Push button
 Rotary switch

No, the answer is incorrect.
Score: 0

Accepted Answers:
Rotary switch

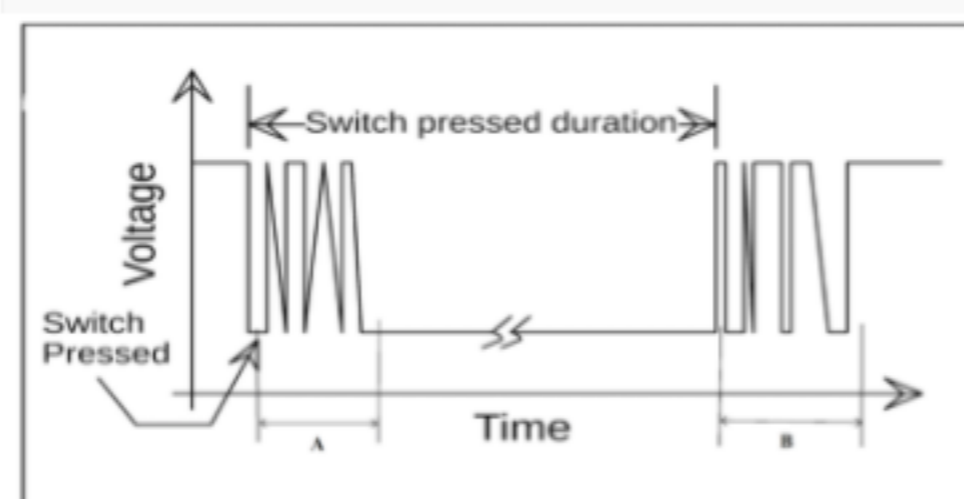
3) In the diagram shown below, assume that the microcontroller is operating at 3.3V, V_{IH} is 1.45V, V_{IL} is 0.65V, $I_{+/-}$ (leakage current at port pin) is 60nA. What would be the maximum value of resistor R1 And R2 respectively? (Take 0.2V as margin above V_{IH} and below V_{IL}) 1 point



- 30Mohm, 10Mohm
 27.5Mohm, 7.5Mohm
 27.5Mohm, 10Mohm
 30Mohm, 7.5Mohm

No, the answer is incorrect.
Score: 0

Accepted Answers:
27.5Mohm, 7.5Mohm

4) For the software debouncing of switch, where would you apply delay with reference to the following diagram? 1 point

- A
 B
 Both A and B
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both A and B

5) How many microcontroller pins will be needed for interfacing 12 switches in matrix and non-matrix (individual interfacing) configuration? 1 point

- 12,7
 7,12
 8,12
 12,8

No, the answer is incorrect.
Score: 0

Accepted Answers:
7,12

6) Which of the following is a better approach to use for interfacing switches with microcontrollers, when the number of switches to be interfaced is large in number (>8)? 1 point

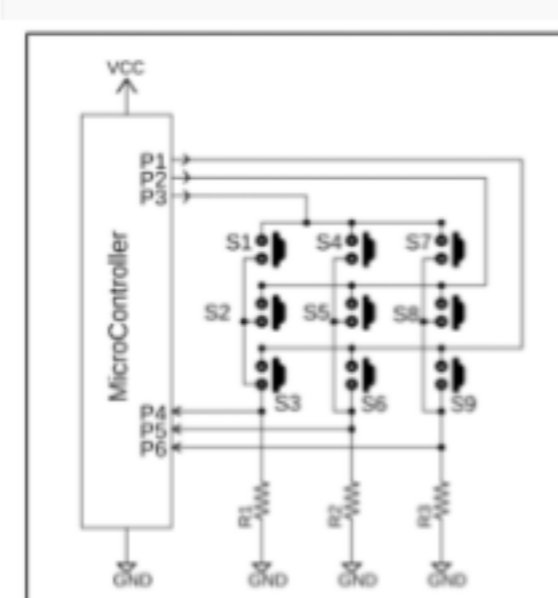
- Interface single switch to single pin of the microcontroller in either pull-up or pull-down configuration
 By connecting switches in matrix form and then interfacing with the microcontroller
 Using an ADC of microcontroller
 None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
By connecting switches in matrix form and then interfacing with the microcontroller

7) In this figure shown below, the keypad of switches is interfaced with a microcontroller. P1, P2, P3 are set as output and P4, P5, P6 are set as input. If no switch is pressed, this is the process to check that: 1 point

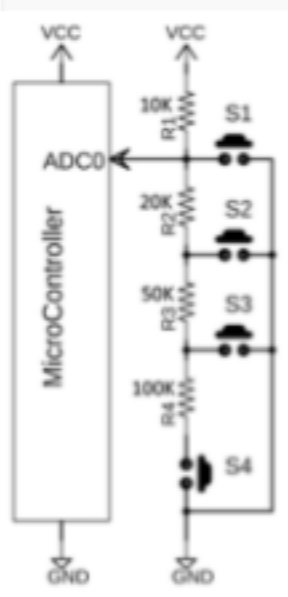
Step 1: SET P1, P2, P3 as LOGIC (i)___
 Step 2: P4, P5, P6 would return LOGIC (ii)___



- (i)-> 1 , (ii) -> 1
 (i)-> 1 , (ii) -> 0
 (i)-> 0 , (ii) -> 0
 (i)-> 0 , (ii) -> 1

No, the answer is incorrect.
Score: 0

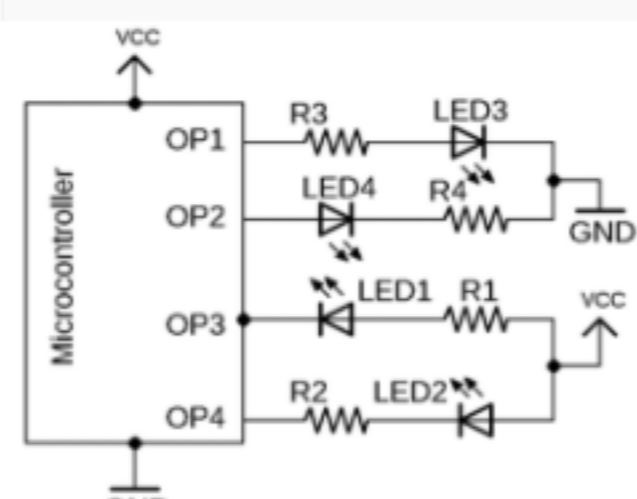
Accepted Answers:
(i)-> 1 , (ii) -> 0

8) In the figure shown below, what will be the input to ADC0 when switch S2 is pressed? 1 point

- 0V
 $2/3 * V_{CC}$
 V_{CC}
 $17/18 * V_{CC}$

No, the answer is incorrect.
Score: 0

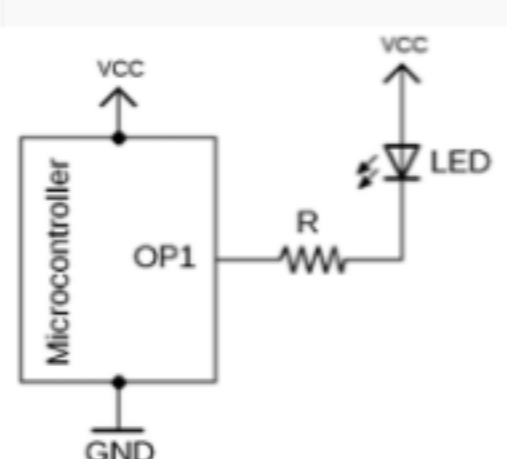
Accepted Answers:
 $2/3 * V_{CC}$

9) Mark the CORRECT statements for the figure given below. 1 point

- LED 3 & 4 are identical in connection and are in active low configuration.
 LED 1 & 2 are identical in connection and are in active high configuration.
 LED 3 & 4 are identical in connection and are in active high configuration.
 LED 1 & 2 are identical in connection and are in active low configuration.
 All LEDs are connected differently.

No, the answer is incorrect.
Score: 0

Accepted Answers:
LED 3 & 4 are identical in connection and are in active high configuration.
LED 1 & 2 are identical in connection and are in active low configuration.

10) For the given circuit, find the value of 'R'. Assume $V_{OH} = 3.75V$, $V_{OL} = 0.2V$, $V_{LED} = 3.0V$, $I_{LED} = 8mA$, $V_{CC} = 5V$. 1 point

- 300 kΩ
 330 Ω
 300 Ω
 330 kΩ

No, the answer is incorrect.
Score: 0

Accepted Answers:
300 Ω