

2. Please answer the following questions and submit (in PDF format) to CourseVille on Friday before 23:59 (midnight).

- Is the 4-digit seven-segment display on the BASYS 3 board a common anode or common cathode? Please explain.
- From the wiring of the board, which logic do you have to assign to the 7-segment pins (a to g and dot) to turn the LED on.
- Given that the clock of the BASYS3 is around 10ns, how many bits do you have to divide the clock with to get the appropriate clock for the TDM. Please provide your analysis (calculation).

a. តើ 4 digit common anode ឬ common cathode ឬ?

សំណួរ 4 digit common cathode ឬ common anode ឬ?



បើ 4 digit 7-segment display តើ 4 digit ឬ 1 digit ឬ? common cathode ឬ common anode ឬ?

b. set 6 bit 0 LED ទុក

set 6 bit 1 LED ទុក បើ 6 bit 0 ឬ 1 ឬ? បើ 6 bit 0 ឬ 1 ឬ? បើ 6 bit 0 ឬ 1 ឬ?

c.

desire clock 15Hz ឬ 4 digit 60Hz

$$\frac{1}{10ns} \times \frac{1}{2^x} = 60Hz$$

$$10^1 \times 10^9 Hz \times \frac{1}{2^x} = 60Hz$$

$$2^x = \frac{10^8}{60}$$

$$x = 20.67$$

∴ ចំនួន 21 bits