1. Is the 4-digit seven-segment display on the BASYS 3 board a common anode for common cathode? .

   The nodes of the seven LEDs forming each digit are tied together into one "common anode" circuit node. TLDR; All LEDs use same anode and switch the cathode on off to control.

2. 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.

   Using switch case as multiplexer to decode hex to each 7 segments number.

3. 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).

   According to datasheet of BASYS3

   "For each of the four digits to appear bright and continuously illuminated, all four digits should be driven once every 1 to 16ms, for a refresh frequency of about 1 kHz to 60Hz. For example, in a 62.5Hz refresh scheme."

   Base clock is 1ns aka 10^9 Hz. Thus, need to be divide to less than 10^3 Hz which is about 10^6 Hz and can be translate to $log_2 10^6 \approx 20$, so divide by 20.