

INF2270, another exercise in combinational logic

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Abstract

In this exercise you will have a closer look at another part of the mandatory exercise.

Last week you were designing a 4 bit decoder as a first step to generate the appropriate bit pattern to control the 7-segment LED displays to show hexadecimal digits. This week we will complete this translation from binary numbers to 7-segment LED patterns: build and simulate a circuit that receives a 'one-hot' 16 bit input and generates the appropriate 7-segment LED display control pattern. Have a look at the oblig-text for an illustration of the 7-segment display and the patterns that correspond to the numbers 1 to f. Note that we choose to make the control patterns active high and that segment A corresponds to the LSB.

In order to test your circuit you may design it with the ISE design suite (see the mandatory exercise oblig1.pdf for an introduction to the tool). For your convenience, a skeleton setup for your design can be found under

`~inf2270/programmer/1hot2LED`

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