CS 303 Logic and Digital System Design Assigned : 10/03/2023
Homework #01 Due : 17/03/2023

A 2-bit input digital multiplier is to be designed. The circuit will accept two binary numbers (with 00, 01, 10, and 11 being possible combinations) and calculate their multiplication, which might take the value 0, 1, 2, 3, 4, 6, or 9. You are provided with a template circuit *mul2bit.dig* which incorporates a sub circuit named *core.dig*, as shown in Fig. 1. Your design will be implemented in this sub circuit, and will contain

1. Exactly one 3-bit adder,
2. Appropriate number of 2-input AND gates.

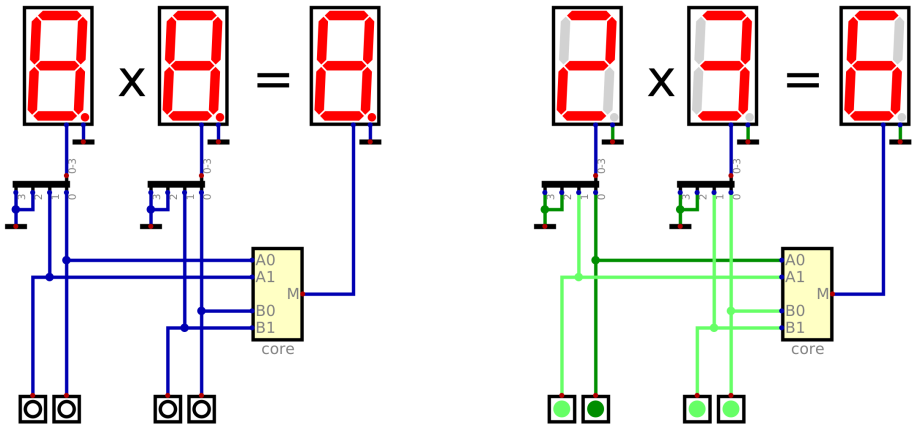

Fig. 1: Template for the 2-bit muliplier (left), sample run (right).

Submit:

1. Your *core.dig* file with the functional circuit.
2. A screenshot of the designed circuit (i.e., *core.dig*).

Make sure that you submit exactly two files. You may assign an arbitrary name to the screenshot image. The template for *core.dig* has its outputs tied to "0" (to avoid an error); do not to forget to remove this part when drawing your design.

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