1) Make a library module for a 1-bit full adder out of gate-level circuitry (XORs, etc.):

2) Make a library module for a multiplicative cell containing 1 FA and one AND gate:
3) Build a 3-bit multiplier circuit out of multiplicative cells (you need 9 cells), and store it as a library module.
4) Build a library module representing a 6-bit binary to BCD converter:

where B is the lower digit and C is the upper digit.

5) Using the library module for a BCD to 7seg converter generated in an earlier homework:
we now build the following circuit:
The multiplier is used as a squarer. While the counter counts from 0 to 7, the two 7-seg display units display the squares of these numbers: 00, 01, 04, 09, 16, 25, 36, 49.