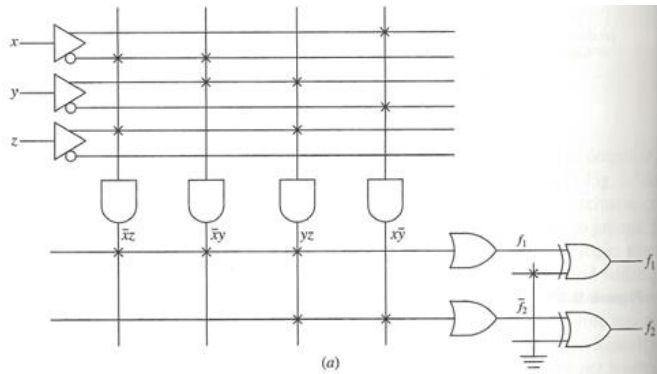


Class Exercise—Logic Design PLAs and PALs

11/4/15



1. The following set of Boolean functions is to be realized with a 3x4x2 PLA having both true and complemented outputs (see example above) . Draw the logic diagram of the realization in PLD notation and show the corresponding PLA table.

$$f_1(x, y, z) = \sum m(0,4,5,6)$$

$$f_2(x, y, z) = \sum m(0,1,3,7)$$

Class Exercise—Logic Design PLAs and PALs

11/4/15

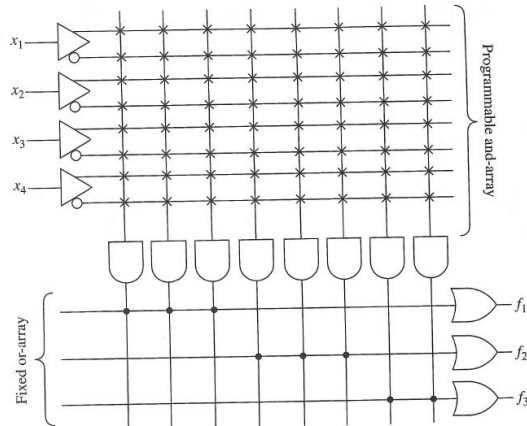


Figure 5.62 A simple four-input, three-output PAL device.

2. Using the PAL device pictured above, draw the logic diagram of a realization in PLD notation for the following set of Boolean functions:

$$f_1(x, y, z) = \sum m(1, 2, 4, 6, 7)$$

$$f_2(x, y, z) = \sum m(2, 4, 5, 6)$$

$$f_3(x, y, z) = \sum m(1, 4, 6)$$