Homework 4

Problem 1
Using the ROM shown in Figure 6-20, implement the following four Boolean functions:

$A_0(I_0, I_1, I_2, I_3, I_4) = \sum m(0, 1, 7)$
$A_1(I_0, I_1, I_2, I_3, I_4) = \sum m(2, 3, 4, 5, 6)$
$A_2(I_0, I_1, I_2, I_3, I_4) = \sum m(12, 16)$
$A_3(I_0, I_1, I_2, I_3, I_4) = \sum m(21, 22, 23, 25, 26, 27)$

Problem 2
Using the PAL shown in Figure 6-23, implement the following four Boolean functions:

$W(A, B, C, D) = \sum m(0, 1, 6)$
$X(A, B, C, D) = \sum m(0, 1, 6, 7)$
$Y(A, B, C, D) = \sum m(2, 6)$
$Z(A, B, C, D) = \sum m(11, 12, 15)$

Problem 3
Using the PLA shown in Figure 6-21, implement the following two Boolean functions:

$F_1(A, B, C) = \sum m(0, 1, 7)$
$F_2(A, B, C) = \sum m(0, 2, 7)$

Problems 5, 6, 8, 10, 11, and 12 from Chapter 7

Problems 1, 3, 6, 8, 9, and 10 from Chapter 8