Problem Set # 8 (Assigned 1 April, Due 9 April)

1. Derive a table to show the coverage of various stuck-at-0 and stuck-at-1 faults by the eight possible input combinations. What is the minimum test set for this circuit?

2. Devise a test to distinguish between two circuits that implement the following expressions:

   (i) $f = x_1 x_2 x_3 + x_2 x_3 x_4 + x_1 x_2 x_4 + x_1 x_3 x_4$

   (ii) $g = (x_1 + x_2)(x_3 + x_4)$

3. In the following circuit, are all single stuck-at-0 and stuck-at-1 faults in the circuit detectable? If not, explain why?