

Homework 1

Out: January 9

Due: Start of class, January 16

- A) Encoding: problem 1-6 from reader (4 points)
- B) Addressing: problem 1-7 from reader (8 points)
- C) Noise: problem 1-12 from reader (12 points)
- D) Boolean logic: problem 3-2 from reader (10 points)
- E) Design a four-bit circuit for the function (16 points)

$$f = \sum m(3,4,5,7,9,13,14,15)$$

Go through the steps of

- a) Write a truth table
- b) Draw a K-map
- c) Identify the prime implicants
- d) Identify the essential prime implicants (if any)
- e) Find a cover of the function