King Saud University
College of Computer and Information Sciences
Department of Computer Science

CSC 220: Computer Organization

Tutorial 3: K-map

Q1: Given the function $f(A, B, C) = \Sigma(0\ 1, 3, 5, 7)$

i. Simplify the function with K-map

ii. Implement it with basic logic gates.

Q2: Given the function $f(A, B, C, D) = \Sigma(2, 3, 5, 6, 7, 9, 11, 13)$

i. Simplify the function with K-map

ii. Implement it with basic logic gates.

Q3: Simplify the following function with K-map

$f(A, B, C, D) = \Sigma_m(2, 5, 6, 9, 10, 12, 13, 14) + \Sigma_d(3, 7, 11, 15)$

i. Implement it with basic logic gates.

ii. Implement it with only NAND gates.

iii. Implement it with only NOR gates.

Home Works

Text book problems: 2-14 to 2-17, 2-19, 2-20, 2-25