

The American University in Cairo School of Science & Engineering

CSCE2301/230 Digital Design 1 Project 1

Objective

This project is intended to make you more familiar with the process of K-Map Logic Minimization.

Project Description

A computer program in *C/C++* will be developed to accomplish the following tasks:

- 1. [20 Points] Read in (and validate) a Boolean function using its minterms as decimal numbers.
- 2. [20 Points] Generate and print the corresponding K-map.
- 3. [60 Points] Generate and print the simplified Boolean expression.

Example

The user should give your program the minterms as an input like:

The output from your program should look like:

Notes

- Boolean functions of 3 variables must be supported.
- Error checking is required to be implemented into your program.
- This is an individual project.

Deliverables

- Your working program source code.
- Report of at most three pages (other than the cover) to discuss the program design, to report the problems in your program (if any) and to give instructions for how to build and use the program.