

Logic Synthesis & Verification, Fall 2017

National Taiwan University

Programming Assignment 2

Due on 2017/12/10 23:59

1 [Programming ABC]

Programming task:

Write a procedure in ABC to find for each gate in a circuit all 1-input resubstitution candidates with the following instructions.

1. Name the command `1subfind`.
2. Write your program with a new function named `Abc_Command1SubFind`.
3. Given a circuit, a node g is called a *1-input resubstitution candidate* of a node f if in the circuit substituting f with g or $\neg g$ makes the circuit function remain unchanged. This programming assignment is to find all 1-input resubstitution candidates for each node in a given circuit.

Items to turn in:

- (1) Your (source) code for compilation.
- (2) A brief readme file describing your implementation, where any effort to enhance computation efficiency should be highlighted. (A 10% bonus credit will be given to those with good algorithms.)

Please submit your zipped file on CEIBA.