Project Assignment

Formal Foundation of Computing

Colombo, Sri Lanka

Deadline: April 10th, 2015

Examiner: Dr. Sameh Abdalla

Using your knowledge about Truth Tables write a Prolog program for calculating and displaying the truth tables for the 'and' 'or' Boolean expressions.

The program is required to do the following things:

- Recognize infix Boolean expressions involving Boolean operations 'and', 'or', and 'not'
- Find the variables in a Boolean expression
- Generate an initial truth assignment for as many variables as there is in the expression.
- Evaluate the expression at a particular truth assignment.
- Generate the next truth assignment in binary count-up order.

```
?- tt(x or (not y  and z)).

  [x,y,z]          x or (not y and z)
---------------------------------------
  [0,0,0]                    0
  [0,0,1]                    1
  [0,1,0]                    0
  [0,1,1]                    0
  [1,0,0]                    1
  [1,0,1]                    1
  [1,1,0]                    1
  [1,1,1]                    1
---------------------------------------
```

Each group will have to work as a team on the code using sourceforge. When the deadline is due you are asked to hand in to the school reception or your local lecturer, Mrs. Manoja Weerasekara, one page with your group name, names of group members, and detailed info on how to access your code.

Happy Coding,

Sameh