

## **SE 4367, Software Testing**

### **Homework #8, BOR-MI**

Use the BOR-MI-CSET procedure to derive the constraint set and the test set  $T_{BOR-MI}$  for the following predicate

$$p_r: (a + b)(c + !cd)$$

where a, b, c, d are Boolean variables.

Show all the steps in generating  $T_{BOR-MI}$ .

Draw the abstract syntax tree (AST) and label the nodes  $N1$  to  $N_m$  (for the BOR part of the problem).

Remember to generate a test set  $T_{BOR-MI}$  corresponding to the root node in the AST.

## Grading Rubric

For the individual steps in the BOR-MI procedure, if you get the wrong answer, it cascades (usually) through the rest of the problem...

Using the BOR-MI-CSET procedure

- not breaking the equation into the correct mutually singular components, -35 points ... and it will cascade
- setting up the AST wrong or not having an AST, -10 points
- BOR: getting the wrong t/f sets for e1, -10 points for the OR node
- MI: getting the wrong T sets for e2, -5 points
- getting the wrong TS sets for e2, -5 points
- getting the wrong  $S_t$  sets for e2, -5 points
- getting the wrong F sets for e2, -5 points
- getting the wrong FS sets for e2, -5 points
- getting the wrong  $S_f$  sets for e2, -5 points
- BOR-MI: getting the wrong t/f sets for the AND node, -10 points
- not generating the TBOR-MI test set, -5 points
  - don't care whether you use true/false or t/f
  - since these are Boolean variables, the test cases are the same as the constraints for the root of the AST...