

CEN6070 – Software Verification, Spring 2010

Homework #2 (12 points), **Due** Feb. 9 (Tuesday)

Problem – The program of mutual exclusion in Section 2.3 (page 25) with the Kripke structure shown in Fig. 2.2,

Requirements

- (1) Define CTL* formulas expressing the following properties:
 - (a) Mutual exclusion: processes P0 and P1 cannot be in the critical regions at the same time;
 - (b) Deadlock freedom: neither process P0 nor process P1 will wait forever;
 - (c) Livelock freedom: both processes P0 and P1 will be able to execute finitely many times.

- (2) Show the model checking steps of the properties (a) and (b) (hint: follow the Microwave oven example on page 38 – 39).