

344/715

Lecturer: Dr. Simina Fluture

### 344-715 Homework

**I. Prove that the conditions of the Critical Section problem are satisfied in Bakery's Algorithm.**

- **Mutual Exclusion** (you can use the 2 given assertions)
- **No Starvation**
- **Progress Condition** (no delay and no deadlock)

**II) What will be the outcome of eliminating the choosing[] array from the Bakery's Algorithm code? Explain. What condition is violated? Give the sequence that violates the condition.**

**III) Implement Mutual Exclusion for n processes using hardware support, and the following atomic instruction:**

```
CSW(a,b,c) {  
  if ( a == b)  
  { b = c;  
    Sign 1;}  
  else  
  {a = b;  
    Sign = 0;}  
}  
return sign
```