CS 511 – Quiz 1: Transition Systems and Paths

5 September 2018

Names:

Pledge:

Consider the following algorithm for solving the MEP problem seen in class:

```
global boolean wantP,wantQ=false;
```

```
1   thread P: {                        1   thread Q: {
2     while (true) {                    2     while (true) {
3       // non-critical section         3       // non-critical section
4       wantP = true;                    4       wantQ = true;
5       await !wantQ;                    5       await !wantP;
6       // critical section              6       // critical section
7       wantP = false;                   7       wantQ = false;
8       // non-critical section          8       // non-critical section
9     }                                  9     }
10  }                                    10  }
```

1. Construct the transition system for this algorithm (ignore lines with comments and "hardwire" the loop as seen in class).

2. Mutual exclusion holds. How would you justify this statement using the transition system?