

**CSCE 330 Fall 2023**  
**QUIZ 4**  
Assigned Tuesday, 2023-10-10

Consider the following incorrect Prolog program.

```
% factorial(N,M) holds when M=Nx(N-1)x...x2x1 (and when N=0 and M=1).  
factorial(0,1).  
factorial(N,F) :- N>0, factorial(N,F1), F is N*N.
```

1. Does this program terminate? **Answer:** No.(It actually runs out of memory.)
2. Correct the second clause of the program so that it correctly computes the factorial. **Answer:**

```
factorial(0,1).  
factorial(N,F) :- N>0, N1 is N-1, factorial(N1,F1), F is N*F1.
```