**CS 5/7350**

**Quiz #1 Due Feb 22 for Completion Grade**

Name & ID:\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CS5350? Yes / No\_

1. [1 pts] Given that (2n) % M = 33 and M is > 100. Give the value for (2n+1) % M\_\_\_\_\_\_\_\_\_\_\_\_\_
2. [2 pts] Consider the following function:

**#include <stdio.h>**

**function (int n)**

**{**

**product = 1;**

**for (i=1; i<=n; i++) {**

**for (j=1; j<=i; j++) {**

**product = product x j;**

**}**

**}**

**printf("%d\n", product);**

**}**

* 1. Write a function for the number of multiplications performed vs n.
  2. What is the asymptotic running time of the code using “multiplication” as a basic element.

1. [2 pts] A program can process 3000 items in 11 seconds.
   1. About how long would it take to process 15000 items if the function describing the running time is bounded by Θ(n)?
   2. About how long would it take to process 15000 items if the function describing the running time is bounded by Θ(n3)?
   3. About how long would it take to process 15000 items if the function describing the running time is bounded by Θ(2n)?