

Name: \_\_\_\_\_

## ECE 270 Test #1

Feb. 21, 2000

Honor code in effect

Closed Book and Notes

1. (30) Write a C program that will calculate the factorial of a positive integer number  $n$  entered by the user when the program is run. Provide a check to make sure that the user has entered a positive number and abort the program if the number is not positive. Please save this program as `prog1.c` on the floppy provided.

2. (30) Write a program that will determine if a number entered by the user is prime. Please save this program as `prog1.c` on the floppy provided.

3. Please answer the following questions briefly as a comment at the end of `prog2.c`:

a) (10) Why should `goto` statements generally be avoided?

b) (10) What effect does *continue* have in a `for` loop?

c) (10) Consider the following code fragment:

```
int a;  
a = 0;  
if (a == 1)  
    printf("Hi there!");
```

Please explain what will happen when this portion of the code is run and why.

d) (10) Explain when opening and closing braces are required following an *if* statement or *for* loop?

**Note: You may only use the floppy disk that has been provided for this test.** Also, please call your first program `prog1.c` and your second program `prog2.c`. It would be a good idea to save backup copies of your programs using file names like `prog1bu.c` and `prog2bu.c`. Please return this sheet with your name on it when you turn your tests and floppies in. **Be sure to put your name on the disk provided and include your name as a comment in each program. Also, please sign the honor code below.**

I have neither given nor received aid on this graded examination \_\_\_\_\_