ECE 270 Test #1
Nov. 9, 1998
Honor code in effect
Closed Book and Notes

1. (30) Write a C program that will calculate the average of n data points which are entered by the user and print out the average and the data points with the average subtracted. The number of data points n is also entered by the user and will not be larger than 50. Please save this program as prob1.c on the floppy provided.

2. (30) Write a program that will print out the product of an arbitrary number of numerical entries. For example, suppose that the user wished to find the product of 3.5, 2.0, and .7 in which case 3 would be entered for the number of entries followed by the three entries after which the program would print out 4.9. Please save this program as prog2.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 if anything is wrong with the following code?

```
int i, sum = 0;
for (i = 1; i < 10; i + 1)
        sum = sum + i;
printf(The sum of the digits from 1 to 10 is %lf\n", sum);
```

c) (10) Consider the following code fragment:

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

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

d) (10) Name one good way to make a program self documenting to minimize the number of comments required so that others can understand the program?

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 include your name as a comment in each program and sign the honor code below.**

I have neither given nor received aid on this graded examination_____