

NAME _____ SS# _____

1. Write a small program to input two numbers from the keyboard, *max* and *incr* and count from 0 to *max* in increments of *incr*. For example, if the user enters 10 and 3 then the output will be 0, 3, 6, 9. Use a for loop.

2. Write a function to compute $\sum_{k=1}^n k = 1 + 2 + 3 + 4 + \dots + (n-1) + n$. The input to the function is the integer *n* and the output is the sum. For example if the input is 5 then the output will be 15. Do not use $\sum_{k=1}^n k = \frac{n(n+1)}{2}$. Use a for loop.

3. Write a segment of code to ask the user for 3 numbers in numerical order. Receive the numbers in variables a, b, c. If the numbers do not have this order $a < b < c$ then repeat the process by asking the user to enter the numbers again. Repeat until $a < b < c$.

5. For each of the following code segments indicate what is the output. Assume the following declarations: `int w = 0, x = 10, y = 20, z = 30;`

a. `if (w == 0 && x > 16)`
 `printf ("True");`
 `else`
 `printf("False");` _____

b. `if (w*x == x * x || z + 5 > 30)`
 `printf ("True");`
 `else`
 `printf("False");` _____

c. `if (x == 10)`
 `printf ("False");`
 `else`
 `printf("True");` _____

6. For each of the following what is the variable assigned. Assume the following declarations:

`float x = 10, y = 20, z = 30, a = 0;`

a. `a = x + z*x + y;` a is _____

b. `a = (x + y) / z ;` a is _____

c. `a = (x + y) * (z - x);` a is _____

7. For the mathematical expression, write the equivalent c code to compute the expression and store the result in variable called result. Assume all of the variables used are pre-declared as float. Also assume the function `sqrt(x)` returns the square root of x.

$\frac{x+z}{y} - \sqrt{y(z+7)}$ _____