

Given the following statements:

```
int x, y;  
cin >> x >> y;
```

Write a single if statement that will print POSITIVE if both **x** and **y** are greater than zero and print NOT POSITIVE otherwise.

Write a for loop that will print all numbers from **y** to **x** that are divisible by 4.

Write a while loop to do the same thing.

Ask the user for an even number that is greater than zero and store it into **y**. Keep asking for input until the user gives an acceptable number.

Declare an array of 100 integers and fill it with the first 100 even numbers starting at 2. Be sure to write this code efficiently.

Write a function that will take an integer parameter (and any other parameters it needs) and fill the array with 100 even numbers starting at the integer parameter. Make sure it works for even and odd values in the parameter.

Write a function that will write the array to a file, one integer per line. The filename should be a parameter to the function.

Declare a two dimensional array (10 rows, 10 columns) to store a multiplication table. The value stored at row A and column B in the array should be the solution to multiplying A by B. Write the code needed to fill the array.

Write a function that will write the array to a file, 1 row per line, with each integer separated by a tab.

Write a function that will print the multiplication table to the screen or to a file, nicely formatted.

Write a function that will take an integer as a parameter and print to the screen the ASCII character associated with that integer. If that integer does not have an ASCII value associated with it, print the message NO CHARACTER to the screen.

Write a function that will take a two dimensional array of integers as a parameter (and any other parameters you need) and return the number of odd integers in the array along with the number of zeros stored in the array. This function should not print anything to the screen.

Using the above function and the multiplication table array above, write a function call and print to the screen the values produced by the function.

You have a file that contains one integer and one character, separated by a space, on each line. Write a program that will read in the integer and character and write to another file the ASCII character (char) associated with the integer and the ASCII code (int) associated with the character. (The new file should have one char and one int, separated by a space, per line)

Write a function that will approximate the value for $\pi/4$. We can approximate $\pi/4$ with the following formula:

$$1/1 - 1/3 + 1/5 - 1/7 + 1/9 \dots\dots$$

The more terms we have in the equation the better the approximation. The twist: Each time the function is called it should approximate $\pi/4$ to one more term. The first time it is called it returns 1, the second time it is called it returns $1-1/3$, etc. Hint: First write this as a for loop then rewrite this as a function that uses static variables.

Write a function that will take two or three positive (> -1) integer parameters and return the average of the two or three parameters. Hint: Use default values.