Loop Review

A loop allows the programmer to repeat lines of code.
A loop control variable is used to control when the loop ends. A programmer must
- Initialize the loop control variable
- Test the loop control variable
- Update the loop control variable

There are three loops in C++
- while
- for
- do-while

The loop body will execute as long as the test condition (the logical expression) is true. When the test condition (the logical expression) is false, the program will continue with the statement immediately after the loop body.

There are three types or uses of loops in C++ programs
- Counter-controlled loops
- Sentinel-controlled loops
- Flag-controlled loops
- End-of-file (EOF)-controlled loops

Each time the body of a loop is executed, it is called an iteration.

The **break** statement will cause the loop to exit.
The **continue** statement will cause the loop to go to the next iteration.

**Problems**
1. Write the program fragment that will output all the integers between 50 and 100 in and the number squared.

2. Write the program fragment that will ask the user to enter a number and keep asking until they enter a positive number.

3. Write the program fragment that will find the sum of 10 numbers that are input by the user and then print the sum.

4. Write the program fragment that will ask the user to enter a number and then half the number. Continue to half the number until the number is no longer positive.