**Java**

**Loop Programs**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DIRECTIONS: Create the following four programs.**

**1)** Write a program that "thinks" of a number between 1 and 100. The user keeps guessing until they get it right. Each time the user guessed the program prints out either "higher" , "lower" or "correct." To indicate the number is higher than what the user guessed, lower than what the user guessed or the number the computer was thinking of. After the user guesses the number, the program prints out how many guesses it took to find the correct number.

**2)** Write a program that displays the remainders of dividing all possible combinations of the numbers from 1 through 10 in a table.

**3)** Write a program that continues to ask the user for input until they type in the word "done." After the program is done, it displays the word that comes first in the alphabet, and the word that comes last.

**4)** Write a program that comes up with two random numbers between 1 and 20. One is the user's number, and the other is the computer's number. If your number is larger, your score increases by 1, if the computers is larger the computer's score increases by 1. If they are the same number, both players lose a point. The program ends when one player’s score reaches 10.