Java While Loops - Practice Problems

All problems in this set should be completed in a project called Java09. Each problem should get its own class and must be named starting with a letter. For example, we could name the second problem in level 1: l1p2.java.

Level 1
1. Write a program that asks the user to enter a number between 10 and 20. Then, print "Java" on the screen that many times. Use a while loop.
2. Write a program that acts as a countdown from 20 to 10. Use a while loop.
3. Write a program that asks a user to enter 9 numbers. Find and display the total of those numbers. Use while loop.
4. Ask a user if they want to continue. The program should keep running for any input they type except no. Once the user enters no, exit the program. Use a while loop.
5. Write a program that asks the user to enter a string that is longer than 5 characters. Keep them in the loop as long as their string is 5 or less characters. Use a while loop.

Level 2
1. Write a program that asks a user how many numbers they want to enter. Have them enter those numbers and then calculate and display the average of those numbers. Use a while loop.
2. Write a program that asks the user to enter a number between 1 and 10. Choose a random number between 1 and 10. Let them know if they guessed the number or not. Use a while loop and give them a maximum of three guesses. At the end, be sure to output the random number for them to see. Also, let them know after each guess if the target number is higher or lower than their guess.
3. Write a program that adds up all of the numbers that a user enters. Do not ask the user ahead of time how many numbers they want to enter. Instead, have them enter -999 to signal the end of their input. Be sure not to include the -999 in the total. At the end of the program, output the total of the number. Use a while loop.
4. Write a program that generates two random numbers between 1 and 13 and finds/displays their total. Continue to add new random cards to the total as long as the user enters "HIT". At the end of the program, if they are above 21, display the word "BUST."

Level 3
1. AbundantNumbers - A positive divisor of some number K, which is different from K, is called a proper divisor of K. For example, 1, 2 and 3 are proper divisors of 6. In number theory, an abundant number is a number that is less than the sum of its proper divisors. For example, 12 is an abundant number since it is less than 1+2+3+4+6=16. The number 15 is not an abundant number since 1+3+5=9. The number 6 is also not an abundant number because 1+2+3=6. Write a program that reads one positive integer N and prints all ODD ABUNDANT numbers between 1 and N. If the number N is ODD and ABUNDANT, the program will print N as well. (Hint: you will need nested loops here)
   Examples:

Input	Output
1000	945
2000	945, 1575
2205	945, 1575, 2205