

CMSC 113: Computer Science I
Lab #5: while Loops

Complete all of the problems below. You will find it easiest to approach these in the order given here. All programs must use while loops.

1. Write a console program that prints the numbers 1 through 10.
2. Write a console program that asks the user for a number. It then prints the numbers counting from 1 up to the number the user entered. For example, if the user enters 8, the program will print the numbers 1 through 8.
3. Write a console program that counts down from a number the user enters. For example, if the user enters 4, the program will count down from 4 to 1.
4. Write a console program that counts from 2 to 20, going up by 2. It should print 2, 4, 6, 8, 10, 12, 14, 16, 18, 20.
5. Write a console program that prints the odd numbers from 1 up to a number the user enters. For example, if the user enters 6, the program should print 1, 3, 5.
6. Write a console program that prints out the triangular numbers, starting at one, and ending at a number the user enters. The triangular numbers are 1, 3, 6, 10, 15, 21, and so on, with the difference between two successive numbers increasing by one each time ($3 - 1 = 2$; $6 - 3 = 3$; $10 - 6 = 4$; $15 - 10 = 5$; $21 - 15 = 6$).
7. Write a console program that prints out the Fibonacci sequence, up to a number the user enters. The Fibonacci sequence is 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, etc., with each number defined as the sum of the previous two.