

COSC 220: Midterm Study Guide

1. Be able to write both for and while loops and use them to do basic operations like creating the Fibonacci sequence, summing powers of numbers, or counting letters.
2. Know how to use branching statements in C++ like the if, else if, else statements etc.
3. Be able to use and manipulate variables. Know the different data types and when to use them. Be familiar with expressions in C++. e.g. how to calculate the square root of a number or take powers of it.
4. Understand how to use system and user defined libraries.
5. Know how to use functions.
6. Understand how to use C++ input and output in the context of streams. For example, if you wanted to read in line by line from a .txt file and then output to the console, how would you do this? How's about reading in line by line into a data structure and then outputting the lines in reverse order to the console?
7. Be able to use some of the standard libraries like string, cmath, etc. A good exercise would be to write code that a user inputs a string and you reverse it and output the reverse. Be able to do this with both data structures like the vector, stack, or queue class as well as using the string class.
8. Understand the differences between call by reference and call by value. For example, when is it preferable to use one and not the other and vice versa.
9. Understand how to use the Vector, Stack, Queue, and Map classes. Know how to use them to do basic operations.