

CS 102 Midterm 1 Study Guide

Disclaimer: This is a guide for studying for the midterm. It is not a guaranteed all-inclusive list of topics and should not be used as your sole source for studying. Review lecture, lecture programs, labs, notes, and learning material posted on Canvas.

- VIM
 - What is VIM?
 - Different modes
 - How to open a file with VIM on command line
 - How to enter/exit insert mode
 - How to save and exit VIM
- Unix/Linux
 - What is it?
 - Commands: ls, cd, mkdir, rm, cp, ssh, scp
 - How to use them (the full command)
 - What task each one does
- Input/Output
 - C++ syntax for reading in input from the terminal and output using cin/cout
 - What to #include
 - cin.clear() – what does this do? How does it work?
 - cin.ignore() – what does this do? How does it work?
 - Wrapping cin inside an if statement – what does this do? How does it work?
 - Printf
 - Know the type specifiers (%f, %d, etc), how to set precision to X amount of decimal places, how to set field width, how to left and right justify
 - I/O Manipulators
 - What to #include
 - What manipulators for cin/cout are persistent? Which ones are not?
 - Setw(), setfill(), left, right, setprecision, fixed, showpoint, scientific, hex, dec
- Vectors
 - What are vectors? What is it similar to in Java?
 - Syntax for declaring vectors
 - Syntax for accessing elements of vectors and assigning elements
 - .push_back(), size(), clear(), resize()
 - What to #include
 - Vectors of vectors
 - How to declare, how to access
- File Streams

- What are file streams?
- How to write to and from files using ifstream and ofstream
 - Declaring a file stream object
 - .open(), is_open(), .close(), .fail()
 - Using insertion/extraction operators and manipulators
- What to #include
- Error checking
- Getline
 - What are the parameters, how do we use getline, what does it return, being able to write an example, etc
- Argv/Argc
 - What is argv/argc used for?
 - What does each stand for?
 - What are the types of each one?
 - What is stored in each one?
 - What is always stored in argv[0]? And what is always stored in non-zero elements of argv?
 - Given command line examples, show the value of argc/argv
 - Write main() given argv and argc as arguments to main()
 - Error checking with argc
- String Streams
 - Similarities and differences between console input/output streams, file streams, and string streams
 - What to #include
 - Getline – see “File Streams” bullet points but apply to string streams
 - How to write to strings and extract from strings
 - Declaring an istream and ostream object
 - Using insertion/extraction operators and manipulators
 - .str()