Arrays

* An array index can be any integer expression
* Array declaration
* their sizes cannot be changed throughout program execution
* initialization with initializer list

1. illegal to initialize with equal to sign and initializer list after declaration.

* Print the contents of an array with a loop
* Initialization with a loop
* Random generator: how it works
* Difference between srand and rand
* Passing arrays to functions

1. Pass by value
2. Pass by reference
3. Array parameter (behaves just like pass by reference. Array elements are modified without having a return value in the function).

* Searching an array

1. Linear search

* Selection sort
* 2D arrays

1. As functions
2. Initialization (row by columns)

Char and Char Data types

* Char and int
* ASCII table

1. A-Z (65-90)
2. a-z (97-122)
3. 0-9 (48-57)

* Converting between lowercase and uppercase
* Strings are char arrays and they are always ended by the null character.
* The null character and what happens when it is overwritten.
* strcmp(), strlen(), strcpy() under cstring header

Structures

* Nested Structures

Input/Output stream

* Creating and writing to a file.
* Opening a file whose filename is stored as a string (*StringVariableName*.c\_str()). Open () function only accepts strings and not variable names.
* Appending to a file instead of overwriting to it.
* Only one stream can be either outputted to a file at a time or inputted into a variable at a time.
* Reading until end of file.
* Input string stream
* Output manipulators

1. showpoint vs noshowpoint – to show decimal places
2. setprecision()
3. fixed vs scientific vs unsetf(ios\_base::floatfield)
4. setw(), setfill(), left/right to manipulate justification

Questions

* Input\_string\_stream.cpp code
* Problem 3
* Why getline(fin, str) doesn’t change value of str after while loop is done if str is a pass-by-reference?