Practice Questions and Exercises

1. What is the difference between a function declaration and a function definition?
2. What is the cause of memory leaks?
3. List the 3 Integral Types in c++.
4. List the 2 Floating Point Types in c++
5. List the 2 Compound Types in c++
6. What is the primary difference between Integral Types and Floating Point Types when it comes to their representation in memory?
7. Explain what is wrong with the following function declarations.
   1. int sum(int, int, int);

int sum(int\*, int\*, int\*);

int sum(int&, int&, int&);

* 1. void wrote\_to\_file(char\* name, char\* data = nullptr, int size);

1. Is this code valid? If not, why?
   1. int a = 10;

int b[a];

* 1. int\* a;

int b = 42;

a = &b;

* 1. double\* d = new double[10];

for (int i = 0; i <= 10; i++)

d[i] = I;

1. Write a program that is used to calculate the average of a list of numbers (do not use statically allocated arrays). This program must ask the user for the number of inputs the program is to accept. Create a dynamic array of doubles to hold those numbers. Next, using a loop, have the user input those numbers and store them in the array. Write a function to calculate the average. My suggestion would be to have the function return a double, and have two input parameters(one for the array, and one for the size of the array) Use the return value from the function to display the average. Be sure to deallocate any dynamic memory that was allocated. (
2. Write an address book program. Use a struct (or a class) to store the Name, email address, phone number, and street address of a person. Ask the user how many people you wish to put in your address book. Create a dynamic array of this struct (or class) to store this information. Accept input from the user for each of these people, and when complete, display the information back to the user for confirmation.