INET 3101 Lab 1.5 (Steven Donath)

Part 1:

A screenshot of a black screen

AI-generated content may be incorrect.

Part 3: A computer screen with white text

AI-generated content may be incorrect.

In my solution, I replaced the for loop with a while loop so that it keeps running until the user enters -1 (exit condition), allowing for dynamic user input. I added dynamic resizing with realloc() so that it tracks the current size of the allocated memory, rather than a fixed size. The program doubles the allocated memory if the user enters more numbers than the initial size. Realloc() first assigns the result to temp so that if it fails, it doesn’t overwrite array.

Part 4:

A computer screen with white text

AI-generated content may be incorrect.

Part 5:

What is an object in object-oriented programming?

An object in OOP is an instance of a class that contains both data (attributes) and behavior (methods). It helps reuse code and keep code organized. For example you can have a Car class, with my\_car as an object containing attributes like brand, model, year, and a method start\_engine. The attributes are essentially properties while the methods are functions that operate using the properties.

How does a Python List embody what CoPilot is to you?

A Python list efficiently manages and structures data, and Copilot manages and structures its outputs. A Python list is flexible and adaptable just as Copilot can assist in various ways.

Part 6:

A linked list solves problems similarly to dynamic memory because it allows for flexible and efficient memory usage without needing a fixed-size array. Linked lists allocate memory depending on the size of the array/number of nodes, so that the space usage is efficient.