

Homework 2

Due: Thursday 1/22 at 11:59pm

Complete the following problems and submit them through Google Classroom. The name(s) of the submitted file should be based on your name or username so that no students submit a file with the same name. Note that Google Classroom allows you to submit multiple files or you can zip them up into a single file.

1. (20 points) Use generative AI to create code that stores the linked list 141, 142, 220, 208, 214 in the data segment and then gives 3 functions to print such a linked list, plus a main that calls one of them. Your submission should include
 - (4 points) a full transcript of your interaction with the AI (I just “printed” as a PDF from my browser),
 - (4 points) the complete code as a single asm file. (This doesn’t need to be a cut-and-paste so you can combine the result of different prompts and edit as necessary.)
 - A writeup describing your process and discussing the results. This part is in your own words; it should not be cut and paste, though you’re allowed to ask the AI for explanations (this interaction should be in your transcript). In particular, you should cover the following topics:
 - (2 points) Identify the AI that you used (I just used the free ChatGPT) and describe any changes that you had to make to its code (likely none or few),
 - (7 points) Describe the 3 versions of the function using terminology you would have understood just from attending class and how they are differ from each other and from what you would have written if you had created the printing function yourself (The programs I got used assembly instructions that we haven’t talked about in class and the methods were also structured differently from each other and from what we’ve been doing in class.)
 - (3 points) Discuss are the advantages and disadvantages of each version, again using terminology from class. (These could be in terms of running time, code size, memory usage, code complexity/understandability, or any other metrics that occur to you. You don’t need to evaluate them in terms of all of these.)
2. (1 point) At the top of your submission, put a statement about collaboration in a comment. This should either be “I didn’t work with anyone” or a description of who you talked with about the assignment and what you talked about. (For example: “David helped me get started, X and Y and I reviewed loops together, and I helped X debug the if statement.”) Don’t include the generative AI in your acknowledgements since I already know about that...