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Data Structure II

Project 5

Incremental Development Plan

**Part 1**

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| **Step** | **Step Name** | **Description** | **Done When** |
| 1 | Allocate Memory | Allocate memory for a structure to hold the information when ran. | I can access information in the assigned structure without segmentation faults. |
| 2 | Read File In | Read two strings into the structure. | 1. Can read the two strings from the arrays. 2. Can be used for operations |
| 3 | Create C-Array | Construct the C-array from the two strings | Entire M\*N matrix is filled with values 0+. |
| 4 | Find LCS | Use the C-Array to find the LCS of the string | Recursively go through the C-Array to find the LCS of the two strings. |
| 5 | Print Information | Prints all needed information from the structure | All the information is filled in from the previous operations. |
| 6 | Free Allocations | Free all the memory that was allocated by user. | All operations are complete for this part. |

**Part 2**

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| **Step** | **Step Name** | **Description** | **Done When** |
| 1 | Allocate Memory | Allocate memory for a structure to hold the information when ran. | I can access information in the assigned structure without segmentation faults. |
| 2 | Read File In | Read multiple strings into the structure (in a 2-D array). | 1. Can read the multiple strings from the arrays. 2. Can be used for operations |
| 3 | Create 2\*M Table | Makes a 2\*M table for each of the string comparison. | Can use a 2\*M table to find the LCS amount from two strings. |
| 4 | Find LCS | Use the 2\*M Table to get the LCS of two strings in comparison at the given time. | Sends the correct amount for the LCS amount so it can be compared for similiarities. |
| 5 | Similar Comparison | Test how similar each string is with length and LCS length | Return value of H, M, L, or D is returned for the proper comparison. |
| 5 | Loop All Strings | Create a loop that does step 3, 4, and 5 for all the strings | All strings have been compared and information is printed to the screen |
| 6 | Free Allocations | Free all the memory that was allocated by user. | All operations are complete for this part. |