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Lab Report

Lab2 – Option A(ID’s)

**Introduction**

In this Lab the main concept is to combine Two Text Files vivendi and activision, with these two text files we are supposed to combine them into one single linked list and sorted them by using bubble sort and merge Sort.

**Proposed Solution design and implementation:**

The way I started solving the problem was first break it down into sub problem; for example, how to create a linked list in python, read the text file row by row and store each value individually. To do all this I first started by creating two classes the first-class is Node in this class I will only receive all items which contain the ID’s and the next node. Which only contains two methods getData and getNext.For the second method Is were bubblesort,insertNode and mergeSort are located before using the sort method I have to insert all the ID’s to the text file

To do so I have make two temp values the first temp value will be used to save all new items that are going to be add it to the second temp value and will be used to traverse are singly linked list all the way to null or in this case None. Once this step is complete, my linked list should be ready to be use in other methods, which are bubble sort and merge sort. For bubble sort there’s different ways to do it; the way I did it was to compare two nodes at a time and made a loop that runs two times the second time will just check one last time that everything is sorted. Merge Sort was little different this time I had to cut my singly linked list into two parts left and right both side will keep diving into two parts until the length is length one. After this the method will be call recursively so it gets all the sort list and combine it into one single linked list.

**Experimental Result:**

To test if my code worlds I try a smaller text file, instead of non-negative number I decided to put negative number.

**Conclusion:**

In the process of making my code I learned different ways to uses a linked list, sorting method. for example with and array you have to created a new list each time you want to add new values in a linked list you can add as many as you want as long as you connect the new item with the list