CSI2110-D – Programming Assignment #2 Report

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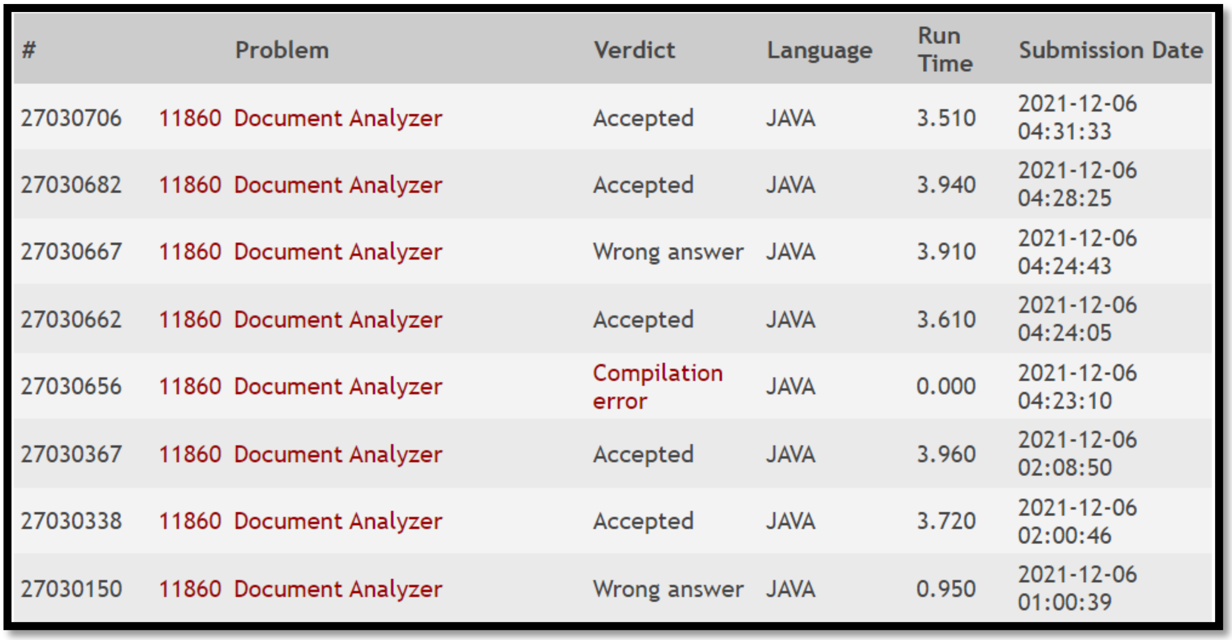
I-Document Analyzer :

I have been able to implement an **O(n)** algorithm that uses a *HashMap* and results in the correct outputs both locally and on the **Online Judge**. Even though my code consists of a loop nested within another loop, the inner one doesn't navigate all the elements of the file (just the unique words, which is much lower than n), and is therefore negligible when it comes to evaluating the algorithm's time complexity.

Moreover, the unique words are stored as keys in a *HashMap* which makes it easier to keep track of their presence in a specific P-Q interval by relying on conditional statements to ensure that the current interval contains all words that are unique and that the temporary list size gets redefined as the interval size when the current interval size is lower.

Initially I tried relying on two different lists instead of a *HashMap* (one to store the strings and another one to store the integers) , but it ended up being too inefficient because it relied on having two nested **O(n)** loops (which corresponds to a time complexity of **O(n^2)**).



#	Problem	Verdict	Language	Run Time	Submission Date
27030706	11860 Document Analyzer	Accepted	JAVA	3.510	2021-12-06 04:31:33
27030682	11860 Document Analyzer	Accepted	JAVA	3.940	2021-12-06 04:28:25
27030667	11860 Document Analyzer	Wrong answer	JAVA	3.910	2021-12-06 04:24:43
27030662	11860 Document Analyzer	Accepted	JAVA	3.610	2021-12-06 04:24:05
27030656	11860 Document Analyzer	Compilation error	JAVA	0.000	2021-12-06 04:23:10
27030367	11860 Document Analyzer	Accepted	JAVA	3.960	2021-12-06 02:08:50
27030338	11860 Document Analyzer	Accepted	JAVA	3.720	2021-12-06 02:00:46
27030150	11860 Document Analyzer	Wrong answer	JAVA	0.950	2021-12-06 01:00:39

II-Continents :

Unfortunately, due to time constraints and a consequential accumulation of schoolwork from other courses, I wasn’t able to work on the second question of this programming assignment.