

Project 4

ReadMe

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Language coded	Java (JavaScript initially, source under nodeSource)	
Approach	I created 5 classes to help me complete this project	
	App.java	This class was in charge of taking the user input and building up the BuildTrie, SearchTrie and Trie classes. This class also did some data manipulation for reporting the extra credit information.
	BuildTrie.java	This class was in charge of building the Trie given a string. This class also reported the maximum size of the Trie, which is used for how far ahead the SearchTrie class will read for matches.
	SearchTrie.java	This class is in charge of searching the Trie for a match given a variable input. It only searches if it knows it can look at the whole Trie to determine a match (IE, if a Trie with a maximum size of 10 is given, but the user only sends in a 5 characters to search, we add those 5 characters to search for later). This class also reports back on the information it gathered (kept in a Hashtable structure)
	Trie.java	This was my basic model for the data structure. It also contains a few validation functions (static).
	Tests.java	This was my class for testing my logic for building out the BuildTrie and SearchTrie classes. In hindsight, I should have added tests for App.java as well, but I like to execute unit tests rather than integration tests when building out applications.
Problems	I went a little crazy and coded the solution in Node.js initially. I got it working (minus the extra credit), but it was really slow. It was taking over an hour, so I thought I would code it Java or C#. I picked Java	

	because I want to get more familiarity with it, most NLP libraries are written in it.
Results	Please look at output.txt created from condor.cmd for more information