

Vector			
Code	Line Cost	# Times Executed	Total Cost
Read line from file	1	n	$O(n)$
Split into tokens	1	n	$O(n)$
Validate tokens (at least two)	1	n	$O(n)$
Create course object	1	n	$O(n)$
Add course to vector	1	n	$O(n)$
Total Cost			$f(N) = 1+1+1+1+1*N$
Runtime			<b><math>O(n)</math></b>

Hash Table			
Code	Line Cost	# Times Executed	Total Cost
Read each line in file	1	n	n
For each line in file split into tokens	1	n	n
Validate tokens	1	n	n
Insert into hash table	1	n	n
Total Cost			$f(N) = 1+1+1+1*N$
Runtime			<b><math>O(n)</math></b>

Binary Search Tree			
Code	Line Cost	# Times Executed	Total Cost
Read from file	1	n	$O(n)$
Split into tokens	1	n	$O(n)$
Validate Tokens	1	n	$O(n)$
Insert into BST	$O(\log n)$	n	$O(n \log n)$
Total Cost			$f(N) = 1+1+1+\log N*N$
Runtime			<b><math>O(n \log n)</math></b>