Find a practical article on using hash tables. Why do you think this has become a huge part of tech interviews for data scientists? Your response should be one paragraph and you need to respond to three other student’s posts.

Hash table is a more efficient way to handle large data because it uses associated arrays where the data is stored by key-value pairs with the key being unique. The time to read/write/search/edit operations have an average O(1) time complexity by reading it in one constant time through a stored index, instead of a conventional operation through a series of elements [1, 2, 3]. This can be efficient and minimize errors when working with large data and complicated objects as the unique key-value storage is an index that cannot be reversed. Khalil Stemmler posted on his website using a great analogy of the word “chair” in a dictionary and the way to put uniqueness in its definition [4]. The reason I think the hash table has become a major part of tech interviews for data scientists is that it's essential for data scientists to be able to process large and complex data efficiently in daily jobs. Using the skill to process data with hash tables will speed up the production time, leading to proficient ways to move through multiple analyses or tasks quickly.

Ref:

[1] <https://cran.r-project.org/web/packages/r2r/vignettes/r2r.html>

[2] <https://www.r-bloggers.com/2015/03/hash-table-performance-in-r-part-i/>

[3] <https://www.hackerearth.com/practice/data-structures/hash-tables/basics-of-hash-tables/tutorial/>

[4] <https://khalilstemmler.com/blogs/data-structures-algorithms/hash-tables/#:~:text=Why%20use%20hash%20tables%3F,them%20all%20in%20constant%20time>.