**CPSC 319**

**Assignment #5: Hashtables**

Winter 2022

Lab Report Due Date: April 13th, 2022

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**Questions:**

1. The hash function in my code takes a given key and adds an offset to the initial value by shifting the binary value and XOR’ing the value the initial value bing shifted with a different offset. This is to prevent having multiple values with the same key.
2. -
3. An ideal hash function has an efficiency of 100%. It’s also important to create a method that gives each table position an equal change of being picked for a key.
4. Having to swap between alphabetical and ASCII means that Strings require more resources for computation within the function. Integers would make this much cheaper overall, especially when scaling the number of keys required.

**References:**

* *Class summary: How Hashtables Work*. (n.d.). Cs.brown.edu. Retrieved April 13, 2022, from https://cs.brown.edu/courses/csci0111/spring2020/lectures/how-hashtables-work.html#:~:text=That%20box%20in%20the%20middle%20is%20called%20a
* *Hash Table Load Factor and Capacity | Programming.Guide*. (n.d.). Programming.guide. Retrieved April 13, 2022, from https://programming.guide/hash-table-load-factor-and-capacity.html
* *Hashing | Set 3 (Open Addressing) - GeeksforGeeks*. (2015, August 12). GeeksforGeeks. https://www.geeksforgeeks.org/hashing-set-3-open-addressing/
* *Java Set and HashSet with custom class | Codexpedia*. (n.d.). Www.codexpedia.com. Retrieved April 13, 2022, from https://www.codexpedia.com/java/java-set-and-hashset-with-custom-class/
* Kumar, P. (2021, February 12). *Linear probing technique explanation with example*. Quescol. https://quescol.com/data-structure/linear-probing
* *What are Hash Functions and How to choose a good Hash Function? - GeeksforGeeks*. (2019, August 20). GeeksforGeeks. https://www.geeksforgeeks.org/what-are-hash-functions-and-how-to-choose-a-good-hash-function/