

# Data Structures Hash Table

- ♥ A hash table is used to index large amount of data
- ♥ Quick key-value look up.  $O(1)$  on average
  - ↳ Faster than brute-force linear search

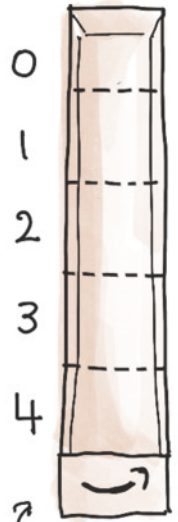
① Let's create an array of size 5.

We're going to add 🐱 data.

key = "Tabby"

value = "pizza"

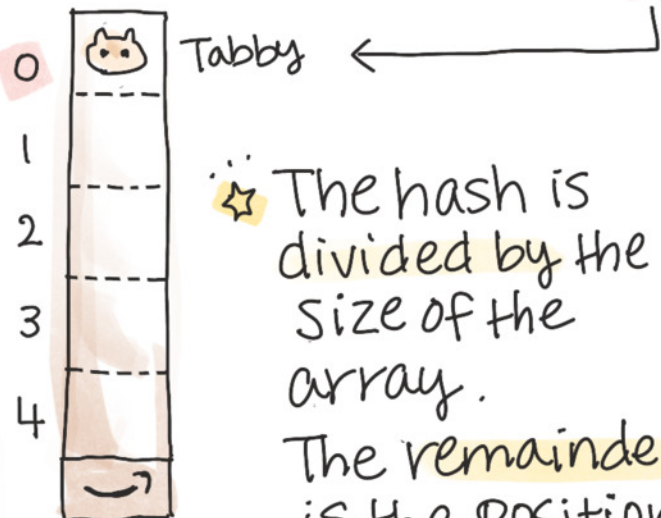
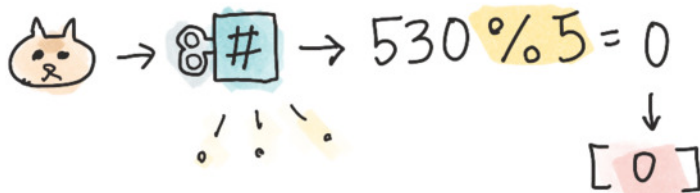
some data  
Let's say, favorite food!



② Calculate the hash value by using the key, "Tabby".  
e.g. ASCII code, MD5, SHA1

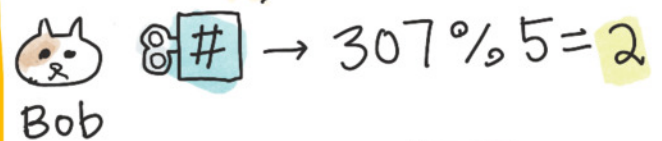
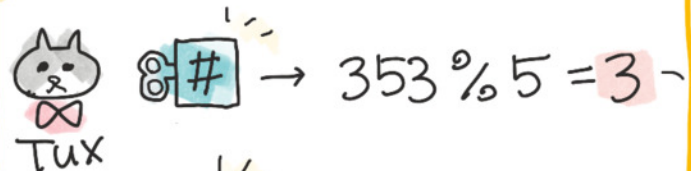


③ Use modulo to pick a position in the array!



☆ The hash is divided by the size of the array.  
The remainder is the position!

④ Let's add more data.



Use the same method to add more 🐱

