P3

Main ideas: Find the total number of collision pairs. In other words find the number of key pairs (x,y) such that value(x) and value(y) are stored in the same index of the array.

Details:

In order to find the total number of collision pairs we consider such formula:

P2

Main ideas: For any index i (0-9) of the array, find the number of keys which refer to the given index.

Details: In that problem we are looking for keys that same with their index. For that reason we create counter which equal to 0 and traverse our data with loop and if the indexes are same, we increment our counter by one;

Let’s consider example:

We have totally 3 keys and size of array is equal to 2;

Our keys: 'Ata', 'Apa', 'Aga'.

And for example ‘Ata’ and ‘Aga’ looking to 0 index. And ‘Apa’ looking to 1 index;

And the number of keys which looking to 0 index is equal to 2;

And the number of keys which looking to 1 index is equal to 1;

P1

Main ideas: Find the total number of collision pairs. In other words find the number of key pairs (x,y) such that value(x) and value(y) are stored in the same index of the array.

Details: A **dictionary** is a data structure that maps keys to values.

A **hash table** is a data structure that maps keys to values by taking the hash value of the key (by applying some hash function to it) and mapping that to a bucket where one or more values are stored. This is analogous to asking the difference between a list and a linked list.

According to the information above we construct our own hash table

