Week 6
Hash Table

Preliminary: Class lecture

Workshop:
Write a program that takes a sequence of dictionary operations. Output for each operation is defined as follows.

Given that an item is a pair (s,v) such that s is a string and v is an integer

Operation	**Output**
insert s v	the hash table
search s	v
delete s	the hash table

1) Develop a hash table data structure in Python 3. Resolve the collision with "Separate Chaining" technique. Use the provided hash.py program as template to start.
   Note: for Python 3, the ascii code of a character c is given by ord(c)

2) Test your program with the provided test case.

3) What is the table size that you use for the provided test case. Why?

4) Try solving this problem. https://www.hackerearth.com/practice/data-structures/hash-tables/basics-of-hash-tables/practice-problems/algorithm/t-rex-and-the-pairs-0a045ce2/ . Create a user account and submit your program for judging. A correct program will result in the following submission result.

My Submissions

#	Problem	Result	Time (Sec)	Memory (kb)	Language	Detail	Date
1	Pairs of elements	✓	2.90000009536743	12928	Python 3	View	4 hours ago

Obviously, solving this problem efficiently requires the use of hash table.

NOTE Python 3 has a built-in data structure for searching called "Dictionary" which utilizes the hash-table approach. For this online problem, you may use your own hash table or use the built-in dictionary for convenience. Learning about the built-in dictionary here Python Dictionaries (w3schools.com)