2nd Semester Assignment

Course Name: Data Structures and Algorithms

Course Code: S2-21_SESAPZC363

Group No: 07

Members:

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Assignment 2 - PS02

Introduction

We have created a small application using Hashtable and hashFunction Data structure approach, which stores retail shop name, phone number, locality and status. This application has been created for any medical distributor who would like to –

- Add names of Retail Shops and other details into the system
- Find list of retail shops with different delivery status (yet to deliver, out for delivery).
- Generate a list of retail shops located in given locality
- Generate a report on number retail shops to whom delivery has been done.

This application is helpful to keep a track of retail pharmacies for smooth operations of supply.

Map.Java

- ✓ Class Map <K, V>: This class represents the entire hash table. Inside this, the constructor Map() initializes the capacity, size and empty chains.

- ✓ int getBucketIndex(K key): This method implements the hash function to find index for a key.
- ✓ V remove(K key) : This method removes the given key.
- ✓ V get(K key) : This method returns the associated value of the given Key.
- ✓ List<K> getKeys() : This method gets all the keys present in the map and stores it inside a list named keysList.
- ✓ boolean containsKey(K key): This method checks if the given key is present in the hashtable.
- ✓ void add(K key, V value) : This method adds a key value pair to hash. Inside this method , there is a check added to see if the load factor is within the threshold capacity. If load factor goes beyond the threshold, then it doubles the hash table size.

Retail.Java

This is a class for retail shop along with all of its properties. The constructor stores values in each of the property.

- ✓ setRetailShop method has a return type of Retail , to get the details of retail shop from the user. And finally, it returns an object of type 'Retail'.

Utility.Java

Within this class , all of the string values that are to be displayed on the output screen, are stored into string variables of type 'static final'.

The Retail.java and Utility.Java makes the code structure modular.

Shop.Java

This class has the main driver method within which the user is given a proper menu using which he/she can easily perform any functionality needed.

Contribution Table

Members	Contribution Percentage(%)
Shravya Shreya (2021HS70011)	33.33%
Sheetal Raj (2021HS70018)	33.33%
Deev Pal (2021HS70025)	33.33%