Pre Requisites:

- Basic Java Syntax

List of concepts involved :

- What are hashmaps
- Various functions of hashmap
- Collision in Hashmap
- Types of hashmap
- Two Sum problem
- First unique character in String

What are Hashmaps

First of all let's understand Maps.Maps is a interface in Java which is present in java.util.* package represents a key and value pair in java. A key should always be unique in the map.

Maps can be used on various occasions where we need to have a key -value sort of relationship. Various examples of map usage are.

- Dictionaries having key value relationships. Word is key and meaning is value
- A map of zip codes and cities. Cities are key and list of zip codes are values.
- A map of class of students. Class is a key and list of students are values.

Now HashMap<K,V> is a part of Java's collection. The class is also found in java.util.* package. It provides the basic implementation of the map interface in java. It stores the data in (key, value) pairs, and you can access them by a index of key. A hashmap always contains unique key. If we try to insert a duplicate key, then it replaces the old key. Hashmap also allows us to store NULL keys. But it only contains one NULL key. If we try to insert another, it will update the value of previous null key.

Syntax to declare Hashmap in Java

HashMap<K,V> hashmap = new HashMap<>();

K,V can be of any data structure. For eg.

HashMap<Integer, String> hashmap = new HashMap<>();

Various functions of HashMap

put()

Put is used to insert elements into the hashmap. We need to specify the arguments of key, value type and it will insert into the hashmap.

For eg.

hashmap.put(1, "Piyush");
hashmap.put(2, "Raghav");