Description Solution Discuss (999+) Submissions

146. LRU Cache

Medium 11614 458 Add to List Share

Design a data structure that follows the constraints of a **Least Recently Used (LRU) cache**.

Implement the `LRUCache` class:

- `LRUCache(int capacity)` Initialize the LRU cache with **positive** size `capacity`.
- `int get(int key)` Return the value of the `key` if the key exists, otherwise return `-1`.
- `void put(int key, int value)` Update the value of the `key` if the `key` exists. Otherwise, add the `key-value` pair to the cache. If the number of keys exceeds the `capacity` from this operation, **evict** the least recently used key.

The functions `get` and `put` must each run in `O(1)` average time complexity.

Example 1:

```
Input
["LRUCache", "put", "put", "get", "put", "get", "put", "get",
"get", "get"]
[[2], [1, 1], [2, 2], [1], [3, 3], [2], [4, 4], [1], [3], [4]]
Output
[null, null, null, 1, null, -1, null, -1, 3, 4]

Explanation
LRUCache lRUCache = new LRUCache(2);
lRUCache.put(1, 1); // cache is {1=1}
lRUCache.put(2, 2); // cache is {1=1, 2=2}
lRUCache.get(1);    // return 1
lRUCache.put(3, 3); // LRU key was 2, evicts key 2, cache is {1=1,
3=3}
lRUCache.get(2);    // returns -1 (not found)
lRUCache.put(4, 4); // LRU key was 1, evicts key 1, cache is {4=4,
3=3}
lRUCache.get(1);    // return -1 (not found)
lRUCache.get(3);    // return 3
```

C#

```
using
System.Collections.Spec
public class LRUCache {

     public class Cache
        public int Data
set;}
        public DateTime
IndexOnList {get; set;}
    }
    protected Dictionar
Cache> dict = new
Dictionary<int, Cache>(

    protected
SortedDictionary<DateTi
list = new
SortedDictionary<DateTi
();
    protected int Cache
= 0;

    public LRUCache(int
capacity) {
        CacheCapacity =
capacity;
    }

    public int Get(int
        if
(dict.ContainsKey(key))
```

Your previous code was restored from y

Testcase Run Code Result

Accepted Runtime: 108 ms

Your input

```
["LRUCache","put'
[[2],[1,1],[2,2],
```

Output

```
[null,null,nul
```

Expected

```
[null,null,null,1
```

Console Use Example Testcase

Problems Pick One Prev /0 Next Run Code Subm