

706. Design HashMap

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Design a HashMap without using any built-in hash table libraries.

Implement the `MyHashMap` class:

- `MyHashMap()` initializes the object with an empty map.
- `void put(int key, int value)` inserts a `(key, value)` pair into the HashMap. If the `key` already exists in the map, update the corresponding value.
- `int get(int key)` returns the `value` to which the specified `key` is mapped, or `-1` if this map contains no mapping for the `key`.
- `void remove(key)` removes the `key` and its corresponding `value` if the map contains the mapping for the `key`.

Example 1:

Input

["MyHashMap", "put", "put", "get", "get", "put", "get", "remove", "get"]

[[], [1, 1], [2, 2], [1], [3], [2, 1], [2], [2], [2]]

Output

[null, null, null, 1, -1, null, 1, null, -1]

Explanation

MyHashMap myHashMap = new MyHashMap();
myHashMap.put(1, 1); // The map is now [[1,1]]
myHashMap.put(2, 2); // The map is now [[1,1], [2,2]]
myHashMap.get(1); // return 1, The map is now [[1,1], [2,2]]
myHashMap.get(3); // return -1 (i.e., not found), The map is now [[1,1], [2,2]]
myHashMap.put(2, 1); // The map is now [[1,1], [2,1]] (i.e., update the existing value)
myHashMap.get(2); // return 1, The map is now [[1,1], [2,1]]
myHashMap.remove(2); // remove the mapping for 2, The map is now [[1,1]]
myHashMap.get(2); // return -1 (i.e., not found), The map is now [[1,1]]

- Constraints:
- $0 \leq \text{key}, \text{value} \leq 10^6$
 - At most 10^4 calls will be made to `put`, `get`, and `remove`.

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```
1 class MyHashMap {
2
3     public MyHashMap() {
4
5     }
6
7     public void put(int key, int value) {
8
9     }
10
11    public int get(int key) {
12
13    }
14
15    public void remove(int key) {
16
17    }
18 }
19
20 /**
21  * Your MyHashMap object will be instantiated and called as such:
22  * MyHashMap obj = new MyHashMap();
23  * obj.put(key,value);
24  * int param_2 = obj.get(key);
25  * obj.remove(key);
26  */
```