

706. Design HashMap

Description

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`.

