LRU Cache (/problems/lru-cache/)

Submission Detail

24 / 24 test cases passed.

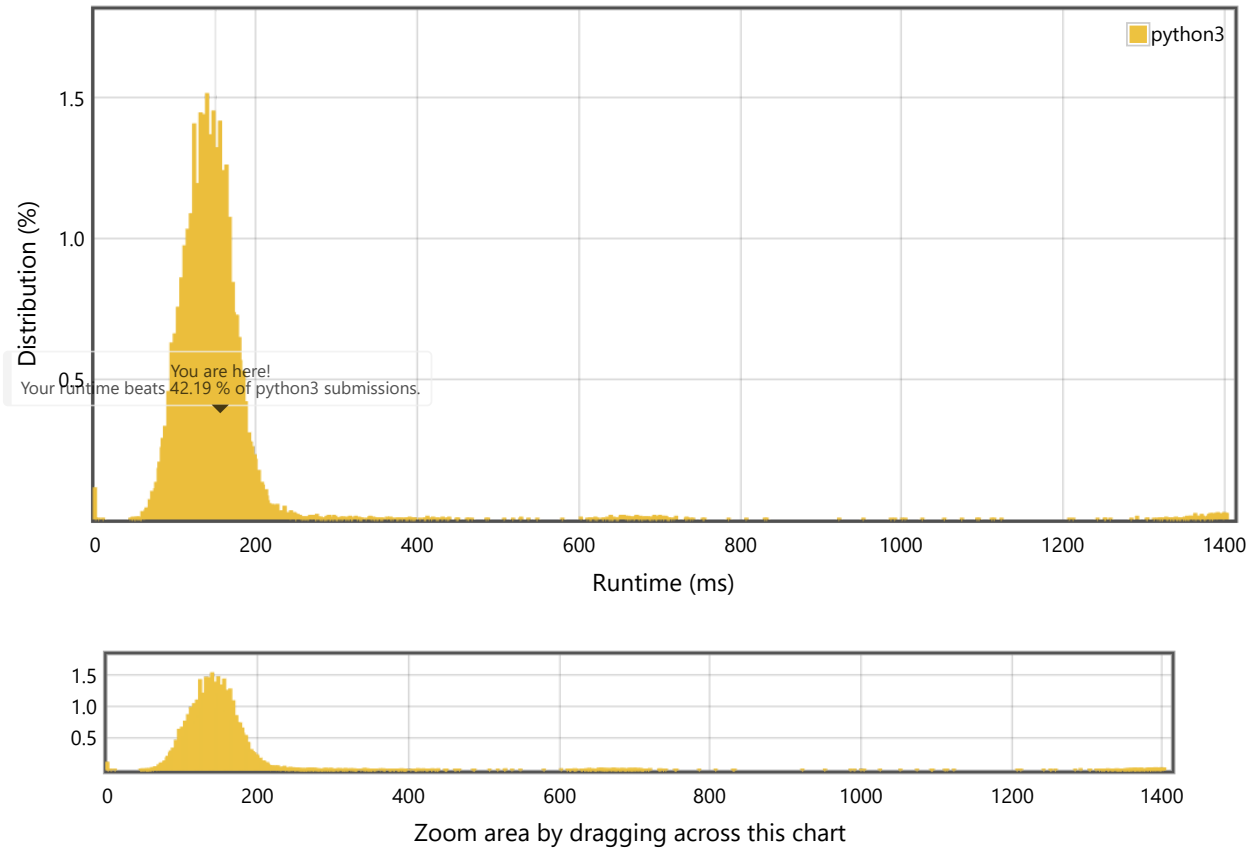
Status: Accepted

Runtime: **151 ms**

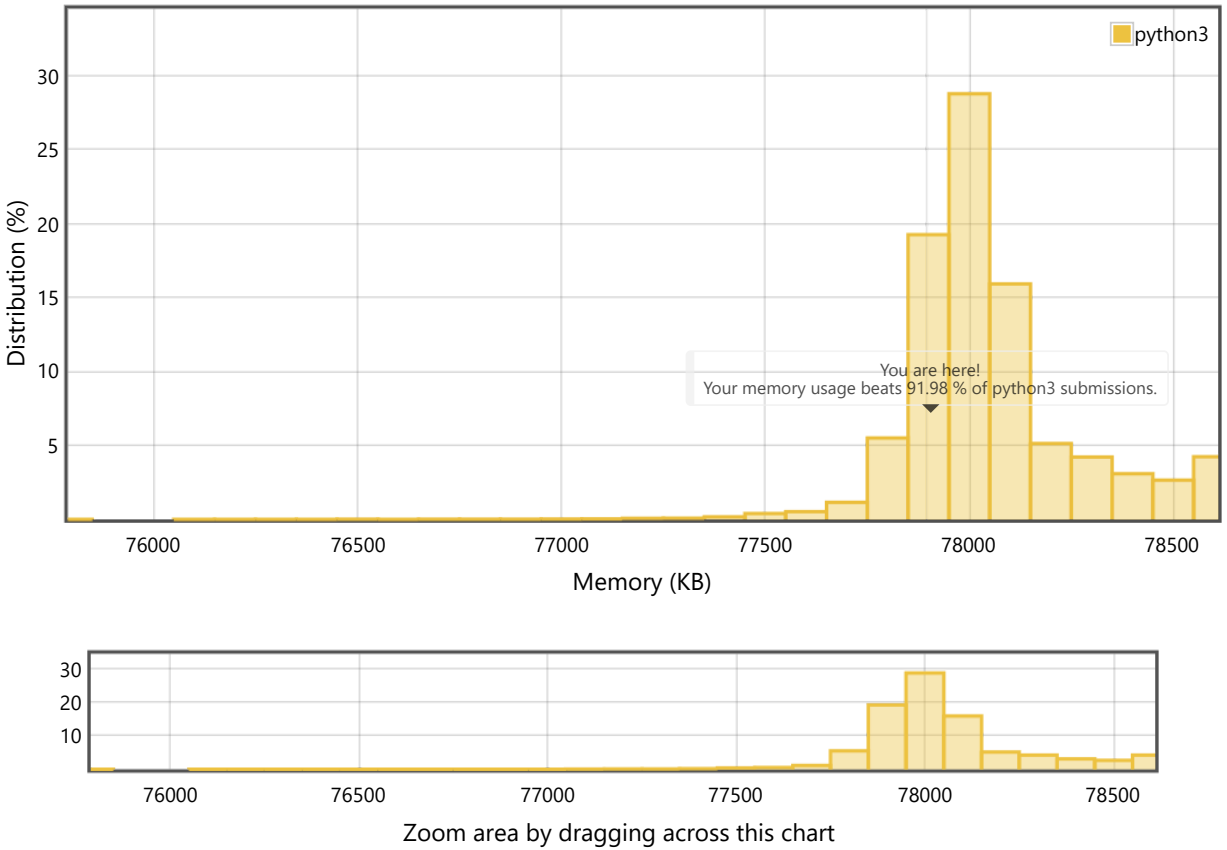
Memory Usage: **77.9 MB**

Submitted: **19 minutes ago**

Accepted Solutions Runtime Distribution



Accepted Solutions Memory Distribution



Invite friends to challenge **LRU Cache**

Submitted Code: 19 minutes ago

Language: python3

```python
class LRUCache:

    class Node:
        def __init__(self, key, value):
            self.key = key
            self.value = value
            self.prev = None
            self.next = None

    def __init__(self, capacity: int):
        self.capacity = capacity
        self.cache = {}  # key -> Node
```

```
13
14          # Dummy head and tail (sentinels)
15          self.head = self.Node(0, 0)
16          self.tail = self.Node(0, 0)
17          self.head.next = self.tail
18          self.tail.prev = self.head
19
20      # --- Doubly Linked List Helpers ---
21      def _remove(self, node):
22          prev, nxt = node.prev, node.next
23          prev.next = nxt
24          nxt.prev = prev
25
26      def _insert(self, node):
27          # Insert right after head (most recently used)
28          node.next = self.head.next
29          node.prev = self.head
30          self.head.next.prev = node
31          self.head.next = node
32
33      # --- Core API ---
34      def get(self, key: int) -> int:
35          if key not in self.cache:
36              return -1
37          node = self.cache[key]
38          self._remove(node)
39          self._insert(node)
40          return node.value
41
42      def put(self, key: int, value: int) -> None:
43          if key in self.cache:
44              self._remove(self.cache[key])
45          node = self.Node(key, value)
46          self.cache[key] = node
47          self._insert(node)
48
49          if len(self.cache) > self.capacity:
50              # Remove LRU node (tail.prev)
51              lru = self.tail.prev
52              self._remove(lru)
53              del self.cache[lru.key]
54
```

Back to problem (/problems/lru-cache/)