

Two Sum (1)

Use hashmap to store the value in ~~an~~ vector as key and its index as the value in the map.
Then set $val = target - nums[i]$. If val exists in hashmap, return the indices.

Code.
Time Complexity $\rightarrow O(n)$.
Space complexity $\rightarrow O(n)$.

```
vector<int> twoSum (vector<int> nums, int target) {
```

```
    vector<int> v;
```

```
    unordered_map<int, int> umap;
```

```
    for (int i = 0; i < nums.size(); i++) {
```

```
        umap[nums[i]] = i;
```

```
    }
```

```
    for (int i = 0; i < nums.size(); i++) {
```

```
        int val = target - nums[i];
```

```
        if (umap.find(val) != umap.end() &&  
            i != umap[val]) {
```

```
            v.push_back(i);
```

```
            v.push_back(umap[val]);
```

```
            return v;
```

```
        }
```

```
    }  
    return v;
```

```
}
```