

2630. Memoize II

Description

Given a function `fn`, return a **memoized** version of that function.

A **memoized** function is a function that will never be called twice with the same inputs. Instead it will return a cached value.

`fn` can be any function and there are no constraints on what type of values it accepts. Inputs are considered identical if they are `===` to each other.

Example 1:

Input:
getInputs = () => [[2,2],[2,2],[1,2]]
fn = function (a, b) { return a + b; }
Output: [{"val":4,"calls":1},{"val":4,"calls":1},{"val":3,"calls":2}]
Explanation:
const inputs = getInputs();
const memoized = memoize(fn);
for (const arr of inputs) {
 memoized(...arr);
}

For the inputs of (2, 2): 2 + 2 = 4, and it required a call to fn().
For the inputs of (2, 2): 2 + 2 = 4, but those inputs were seen before so no call to fn() was required.
For the inputs of (1, 2): 1 + 2 = 3, and it required another call to fn() for a total of 2.

Example 2:

Input:
getInputs = () => [{},{},[{}],[],[{}],[]]
fn = function (a, b) { return ({...a, ...b}); }
Output: [{"val":{},"calls":1},{"val":{},"calls":2},{"val":{},"calls":3}]
Explanation:
Merging two empty objects will always result in an empty object. It may seem like there should only be 1 call to fn() because of cache-hits, however none of those objects are `===` to each other.

Example 3:

Input:
getInputs = () => { const o = {}; return [[o,o],[o,o],[o,o]]; }
fn = function (a, b) { return ({...a, ...b}); }
Output: [{"val":{},"calls":1},{"val":{},"calls":1},{"val":{},"calls":1}]
Explanation:
Merging two empty objects will always result in an empty object. The 2nd and 3rd third function calls result in a cache-hit. This is because every object passed in is identical.

Constraints:

- `1 <= inputs.length <= 105`
- `0 <= inputs.flat().length <= 105`
- `inputs[i][j] != NaN`

