JS Advanced: Exam 19 December 2016

Problems for exam preparation for the "JavaScript Advanced" course @ SoftUni. Submit your solutions in the SoftUni judge system at https://judge.softuni.bg/Contests/375/.

Problem 2. Add Left / Add Right / Clear (Unit Testing)

You are given the following **JavaScript code**:

<table>
<tr><th>list-add-left-right-clear.js</th></tr>
</table>

```javascript
function makeList() {
    let data = [];
    return {
        addLeft: function(item) {
            data.unshift(item);
        },
        addRight: function(item) {
            data.push(item);
        },
        clear: function() {
            data = [];
        },
        toString: function() {
            return data.join(", ");
        }
    };
}

module.exports = makeList;
```

Functionality

The above code creates a **list** data structure that holds items (of any type). It supports the following operations:

- **addLeft(item)** – **adds** item at the beginning of the list.
- **addRight(item)** – **adds** item at the end of the list.
- **clear()** – removes all elements in the list.
- **toString()** – returns the string representations of the **list items**, separated by "**,** ".

Examples

This is an example how this code is **intended to be used**:

<table>
<tr><th>Sample code usage</th><th>Corresponding output</th></tr>
<tr><td>

```javascript
let list = makeList();
console.log(`list = [${list}]`);
list.addRight(1);
list.addRight("two");
list.addLeft(0);
console.log(`list = [${list}]`);
list.clear();
list.addLeft("beer");
```

</td><td>

```
list = []
list = [0, 1, two]
list = [3.14, beer]
```

</td></tr>
</table>

Follow us:

```
list.addLeft(3.14);
console.log(`list = [${list}]`);
```

Your Task

Using **Mocha** and **Chai** write **JS unit tests** to test the entire functionality of the `list` object. Your code will only be provided the `list` function, how you test the list is entirely up to you - whether you create a new list before each test or share the same list between tests.

You should have at least **6 test cases**, make sure you cover all **edge cases**. You may use the following code as a template:

```
describe("TODO …", function() {
  let myList = {};

  beforeEach(function () {
    myList = makeList();
  });

  it("TODO …", function() {
    // TODO: …
  });
  // TODO: …
});
```

Submission

Submit **only your tests** as "**JavaScript code (Unit Tests with Sinon and Mocha)**".