JS Advanced: Exam 23 July 2017

Problems for exam preparation for the "JavaScript Advanced" course @ SoftUni. Submit your solutions in the SoftUni judge system at https://judge.softuni.bg/Contests/699/.

Problem 2. Sumator Class (Unit Testing)

You are given the following JavaScript class:

```
sumator. js
class Sumator {
  constructor() {
    this.data = [];
  add(item) {
    this.data.push(item);
  }
  sumNums() {
    let sum = 0;
    for (let item of this.data)
      if (typeof (item) === 'number')
        sum += item;
    return sum;
  }
  removeByFilter(filterFunc) {
    this.data = this.data.filter(x => !filterFunc(x));
  }
  toString() {
    if (this.data.length > 0)
      return this.data.join(", ");
    else
      return '(empty)';
  }
}
```

Functionality

The above code defines a class that holds items (of any type). An instance of the class should support the following operations:

- Contains a property **data** that is initialized to an **empty** array.
- Function add(item) adds the passed in item (of any type) to the data.
- Function sumNums() sums only the numbers from the data and returns the sum. If there are no numbers stored, the function should return zero.
- Function removeByFilter(filterFunc) filters the data by a given function. All of the items that match the criteria should be removed.
- Function toString() returns a string, containing a list of all items from the data, joined with a comma and a space. If there are no items stored, it should return the string "(empty)".

















Examples

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

```
Sample code usage
let list = new Sumator();
console.log(`list = [${list}]`);
list.add(1);
list.add(2);
list.add("three");
list.add(4);
console.log(`list = [${list}]`);
console.log("sum = " + list.sumNums());
list.add("5.5"); // not a number!
list.add(7.7);
console.log(`list = [${list}]`);
console.log("sum = " + list.sumNums());
list.removeByFilter(x => x % 2 === 0);
console.log(`list = [${list}]`);
console.log("sum = " + list.sumNums());
```

```
Corresponding output
list = [(empty)]
list = [1, 2, three, 4]
sum = 7
list = [1, 2, three, 4, 5.5,
7.7]
sum = 14.7
list = [1, three, 5.5, 7.7]
sum = 8.7
```

Your Task

Using Mocha and Chai write JS unit tests to test the entire functionality of the Sumator class. Make sure it is correctly defined as a class and instances of it have all the required functionality. You should have at least 7 test cases. You may use the following code as a template:

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

Submission

Submit your tests inside a **describe()** statement.















