# **More Exercise: Objects and Classes**

Problems for exercise and homework for the "JS Fundamentals" Course @ SoftUni. Submit your solutions in the SoftUni judge system at: <a href="https://judge.softuni.org/Contests/1318">https://judge.softuni.org/Contests/1318</a>

## 1. Class Laptop

Create a class Laptop that has the following properties:

- info object that contains:
  - o **producer** string
  - o **age** number
  - o **brand** string
- isOn boolean (false by default)
- turnOn a function that sets the isOn variable to true
- turnOff a function that sets the isOn variable to false
- showInfo a function that returns the producer, age, and brand as JSON
- quality number (every time the laptop is turned on/off the quality decreases by 1)
- getter price number (800 {age \* 2} + (quality \* 0.5))

The constructor should receive the info as an object and the quality.

#### **Examples**

Test your class.

Input	Output
<pre>let info = {producer: "Dell",    age: 2, brand: "XPS"} let laptop = new Laptop(info, 10) laptop.turnOn() console.log(laptop.showInfo()) laptop.turnOff() console.log(laptop.quality) laptop.turnOn() console.log(laptop.isOn) console.log(laptop.price)</pre>	{"producer":"Dell","age":2,"brand":"XPS"} 8 true 799.5
<pre>let info = {producer: "Lenovo",    age: 1, brand: "Legion"} let laptop = new Laptop(info, 10) laptop.turnOn() console.log(laptop.showInfo()) laptop.turnOff() laptop.turnOn() laptop.turnOff()</pre>	{"producer":"Lenovo","age":1,"brand":"Legion"} false













# 2. Flight Schedule

You will receive an array with arrays.

The first array (at index 0) will hold all flights on a specific sector in the airport. The second array (at index 1) will contain newly changed statuses of some of the flights at this airport. The third array (at index 2) will have a single string, which will be the flight status you need to check. When you put all flights into an object and change the statuses depends on the new information on the second array. You must print all flights with the given status from the last array.

- If the value of the string obtained from the third array is "Ready to fly":
  - o then you must **print** flights that have **not changed** their **status** in the second array
  - and automatically change the status to "Ready to fly"
- Otherwise, print only flights that have changed their status.

#### **Examples**

Input	Output
<pre>[['WN269 Delaware',     'FL2269 Oregon',     'WN498 Las Vegas',     'WN3145 Ohio',     'WN612 Alabama',     'WN4010 New York',     'WN1173 California',     'DL2120 Texas',     'KL5744 Illinois',     'WN678 Pennsylvania'],     ['DL2120 Cancelled',          'WN612 Cancelled',          'WN1173 Cancelled',          'SK430 Cancelled'],         ['Cancelled'] ]</pre>	{ Destination: 'Alabama', Status: 'Cancelled' } { Destination: 'California', Status: 'Cancelled' } { Destination: 'Texas', Status: 'Cancelled' }
[['WN269 Delaware',     'FL2269 Oregon',     'WN498 Las Vegas',     'WN3145 Ohio',     'WN612 Alabama',	{ Destination: 'Delaware', Status: 'Ready to fly' } { Destination: 'Oregon', Status: 'Ready to fly' } { Destination: 'Las Vegas', Status: 'Ready to fly' } { Destination: 'Ohio', Status: 'Ready to fly' } { Destination: 'New York', Status: 'Ready to fly' }















```
{ Destination: 'Illinois', Status: 'Ready to fly' }
    'WN4010 New York',
                           { Destination: 'Pennsylvania', Status: 'Ready to
    'WN1173 California',
                           fly' }
    'DL2120 Texas',
    'KL5744 Illinois',
    'WN678
Pennsylvania'],
    ['DL2120 Cancelled',
        'WN612
Cancelled',
        'WN1173
Cancelled',
        'SK330
Cancelled'],
        ['Ready to fly']
```

## 3. School Register

In this problem, you have to arrange all students by grade. You as the secretary of the school principal will process students and store them into a school register before the new school year hits. As a draft, you have a list of all the students from last year but mixed. Keep in mind that if a student has a lower score than 3, he does not go into the next class. As a result of your work, you have to print the entire school register sorted in ascending order by grade already filled with all the students from last year in the format:

```
`{nextGrade} Grade
```

```
List of students: {All students in that grade}
```

Average annual score from last year: {average annual score on the entire class from last year}`

And empty row {console.log}

The input will be an array with strings, each containing a student's name, last year's grade, and an annual score. The average annual score from last year should be formatted to the second decimal point.

## **Examples**

Input	Output
[ "Student name: Mark, Grade: 8, Graduated with an average score: 4.75",  "Student name: Ethan, Grade: 9, Graduated with an average score: 5.66",  "Student name: George, Grade: 8, Graduated with an average score: 2.83",	9 Grade List of students: Mark, Daryl Average annual score from last year: 5.35
"Student name: Steven, Grade: 10, Graduated with an average score: 4.20", "Student name: Joey, Grade: 9, Graduated with an average score: 4.90",	10 Grade List of students: Ethan, Joey, Bill















```
"Student name: Angus, Grade: 11,
                                          Average annual score from last
Graduated with an average score: 2.90",
                                          vear: 5.52
    "Student name: Bob, Grade: 11,
Graduated with an average score: 5.15",
                                          11 Grade
    "Student name: Daryl, Grade: 8,
                                          List of students: Steven, Philip,
Graduated with an average score: 5.95",
                                          Gavin
    "Student name: Bill, Grade: 9,
                                          Average annual score from last
Graduated with an average score: 6.00",
                                          year: 4.42
    "Student name: Philip, Grade: 10,
Graduated with an average score: 5.05",
                                          12 Grade
    "Student name: Peter, Grade: 11,
                                          List of students: Bob, Peter
Graduated with an average score: 4.88",
                                          Average annual score from last
    "Student name: Gavin, Grade: 10,
                                          year: 5.02
Graduated with an average score: 4.00"
1
                                          2 Grade
                                          List of students: Darsy
                                          Average annual score from last
                                          year: 5.15
'Student name: George, Grade: 5,
Graduated with an average score: 2.75',
'Student name: Alex, Grade: 9,
                                          3 Grade
Graduated with an average score: 3.66',
                                          List of students: Steven
'Student name: Peter, Grade: 8,
                                          Average annual score from last
Graduated with an average score: 2.83',
                                          year: 4.90
'Student name: Boby, Grade: 5,
Graduated with an average score: 4.20',
                                          6 Grade
'Student name: John, Grade: 9,
                                          List of students: Boby
Graduated with an average score: 2.90',
                                          Average annual score from last
'Student name: Steven, Grade: 2,
                                          year: 4.20
Graduated with an average score: 4.90',
'Student name: Darsy, Grade: 1,
Graduated with an average score: 5.15'
                                          10 Grade
]
                                          List of students: Alex
                                          Average annual score from last
                                          year: 3.66
```

## 4. Browser History

As input, you will receive two parameters: an object and a string array.

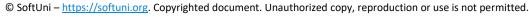
The object will be in format: {Browser Name}: {Name of the browser}, Open tabs:[...], Recently **Closed:** [...], **Browser Logs:** [...]. Your task is to fill in the object based on the actions we will get in the array of strings.

You can **open** any site in the world as many times as you like; if you do that add it to the open tabs.

You can close only these tabs you have opened already! If the current action contains a valid opened site, you should remove it from "Open Tabs" and put it into "Recently closed", otherwise don't do anything!

Browser Logs will hold every single Valid action, which you did (Open and Close).



















There is a special case in which you can get an action that says: "Clear History and Cache". That means you should **empty the whole object**.

In the end, print the object in the format:

```
{Browser name}
```

**Open Tabs:** {[...]} // Joined by comma and space

**Recently Closed:** {[...]} // Joined by comma and space

**Browser Logs:** {[...]} // Joined by comma and space

#### **Examples**

Input	Output
<pre>{"Browser Name":"Google Chrome","Open Tabs":["Facebook","YouTube","Google Translate"],         "Recently Closed":["Yahoo","Gmail"],         "Browser Logs":["Open YouTube","Open Yahoo","Open Google Translate","Close Yahoo","Open Gmail","Close Gmail","Open Facebook"]},         ["Close Facebook", "Open StackOverFlow", "Open Google"]</pre>	Google Chrome Open Tabs: YouTube, Google Translate, StackOverFlow, Google Recently Closed: Yahoo, Gmail, Facebook Browser Logs: Open YouTube, Open Yahoo, Open Google Translate, Close Yahoo, Open Gmail, Close Gmail, Open Facebook, Close Facebook, Open StackOverFlow, Open Google
<pre>{"Browser Name":"Mozilla Firefox",         "Open Tabs":["YouTube"],         "Recently Closed":["Gmail", "Dropbox"],         "Browser Logs":["Open Gmail", "Close Gmail", "Open Dropbox", "Open YouTube", "Close Dropbox"]},         ["Open Wikipedia", "Clear History and Cache", "Open Twitter"]</pre>	Mozilla Firefox Open Tabs: Twitter Recently Closed: Browser Logs: Open Twitter

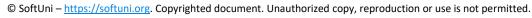
## 5. Sequences

You are tasked with storing sequences of numbers. You will receive an array of strings; each of them will contain an unknown amount of arrays containing numbers, from which you must store only the unique arrays (duplicate arrays should be discarded). An array is considered the same (NOT unique) if it contains the same numbers as another array, regardless of their order.

After storing all arrays, your program should print them back in ascending order based on their length, if two arrays have the same length, they should be printed in order of being received from the input. Each array should be printed in **descending order** in the format " $[a_1, a_2, a_3, ... a_n]$ ". Check the examples below.

The input comes as an array of strings where each entry is a JSON representing an array of numbers.

















The **output** should be printed on the console - each array printed on a new line in the format "[a1, a2, a3,... an]", following the above-mentioned ordering.

# **Examples**

Input	Output
["[-3, -2, -1, 0, 1, 2, 3, 4]", "[10, 1, -17, 0, 2, 13]", "[4, -3, 3, -2, 2, -1, 1, 0]"]	[13, 10, 2, 1, 0, -17] [4, 3, 2, 1, 0, -1, -2, -3]
["[7.14, 7.180, 7.339, 80.099]", "[7.339, 80.0990, 7.140000, 7.18]", "[7.339, 7.180, 7.14, 80.099]"]	[80.099, 7.339, 7.18, 7.14]















