

## Problem 3 – Survey Parser

Write a JavaScript program that **parses** a given **document** that may contain the results of a **rating survey** and outputs a **summary** of the votes. You will receive a **string** that contains XML-formatted data. From this data, you must extract a **valid label** and **average rating** (sum of ratings, divided by their count). Input, containing valid survey data will follow these rules:

- The document may contain **any symbol before and after** the survey data
- The survey data **always** begins with `<svg>` and ends with `</svg>`:

`Any text` `<svg>` `Survey data` `</svg>` `Any text`

- Each valid survey will contain **exactly two sections** beginning with `<cat>` and ending with `</cat>`
- There may be **whitespace between** the sections

`<cat>` `Survey heading and Label` `</cat>` `<cat>` `Ratings` `</cat>`

- The contents of the first **cat** section must begin with `<text>` and end with `</text>`; it may contain **any text**, but needs to have a **valid label**, inside brackets `[ ]`

`<text>` `Survey heading` `[` `Survey Label` `]` `</text>`

- The second **cat** section contains all of the **ratings** with each vote beginning with `<g>` and ending with `</g>`
- A **valid rating** contains a **value** and **count**, with the **value** surrounded by `<val>` and `</val>` and the **count** right **after the value**
- There may be any number of **valid** and **invalid ratings** inside the second cat; you should **only process** the valid ones, and **ignore** the invalid ratings

`<g>` `<val>` `Rating value` `</val>` `Vote count` `</g>`

- **Valid rating:** `<g>` `<val>` `1` `</val>` `0` `</g>`
- **Invalid rating (ignore and continue):** `<g>` `<val>` `Seafood` `</val>` `1` `</g>`
- The **value** must be a number between **1** and **10**
- The **count** must be a number **0** or larger

If the document **does not** contain survey data (no opening and closing **svg** tags), print on the console **"No survey found"**. If there is survey data, but the rest of the rules aren't followed, print on the console **"Invalid format"**.

At the **end** of the program, print on the **console** the **label** of the survey and the **average rating**, **rounded** to two decimal places.

### Input

You will receive a single **string**, containing a document to be parsed.

### Output

Depending on outcome, print on the **console** a single line:

- **No survey found**
- **Invalid format**
- **{label}: {average rating}**

## Constraints

- There will never be more than one valid survey
- Rating **value** will be in range [1...10]
- Rating **count** will be in range [1...1 000 000]

## Examples

Input
<pre>&lt;p&gt;Some random text&lt;/p&gt;&lt;svg&gt;&lt;cat&gt;&lt;text&gt;How do you rate our food? [Food - General]&lt;/text&gt;&lt;/cat&gt;&lt;cat&gt;&lt;g&gt;&lt;val&gt;1&lt;/val&gt;0&lt;/g&gt;&lt;g&gt;&lt;val&gt;2&lt;/val&gt;1&lt;/g&gt;&lt;g&gt;&lt;val&gt;3&lt;/val&gt;3&lt;/g&gt;&lt;g&gt;&lt;val&gt;4&lt;/val&gt;10&lt;/g&gt;&lt;g&gt;&lt;val&gt;5&lt;/val&gt;7&lt;/g&gt;&lt;/cat&gt;&lt;/svg&gt;&lt;p&gt;Some more random text&lt;/p&gt;</pre>
Output
Food - General: 4.1
Explanation
<p>The survey data is surrounded by <code>&lt;svg&gt;</code> and <code>&lt;/svg&gt;</code>, the remaining data is discarded. The first cat contains our label, surrounded by brackets: Food – General.</p> <p>The second cat contains five ratings, all surrounded with <code>&lt;g&gt;</code> and <code>&lt;/g&gt;</code>, and when parsed we get the following:</p> <p>0 votes with value 1 = 0 1 votes with value 2 = 2 3 votes with value 3 = 9 10 votes with value 4 = 40 7 votes with value 5 = 35</p> <p>The sum of all ratings is 86, divided by their count 21 gives us the average rating <b>4.095...</b>, which we round to the second decimal – <b>4.1</b>.</p>

Input
<pre>&lt;svg&gt;&lt;cat&gt;&lt;text&gt;How do you rate the special menu? [Food - Special]&lt;/text&gt;&lt;/cat&gt;&lt;cat&gt;&lt;g&gt;&lt;val&gt;1&lt;/val&gt;5&lt;/g&gt;&lt;g&gt;&lt;val&gt;5&lt;/val&gt;13&lt;/g&gt;&lt;g&gt;&lt;val&gt;10&lt;/val&gt;22&lt;/g&gt;&lt;/cat&gt;&lt;/svg&gt;</pre>
Output
Food - Special: 7.25

Input
<pre>&lt;p&gt;How do you suggest we improve our service?&lt;/p&gt;&lt;p&gt;More tacos.&lt;/p&gt;&lt;p&gt;It's great, don't mess with it!&lt;/p&gt;&lt;p&gt;I'd like to have the option for delivery&lt;/p&gt;</pre>
Output
No survey found

Input
<pre>&lt;svg&gt;&lt;cat&gt;&lt;text&gt;Which is your favourite meal from our selection?&lt;/text&gt;&lt;/cat&gt;&lt;cat&gt;&lt;g&gt;&lt;val&gt;Fish&lt;/val&gt;15&lt;/g&gt;&lt;g&gt;&lt;val&gt;Prawns&lt;/val&gt;31&lt;/g&gt;&lt;g&gt;&lt;val&gt;Crab Lagoon&lt;/val&gt;12&lt;/g&gt;&lt;g&gt;&lt;val&gt;Calamari&lt;/val&gt;17&lt;/g&gt;&lt;/cat&gt;&lt;/svg&gt;</pre>
Output
Invalid format