

# JavaScript Debuggen

# **BUGS**

Syntax errors

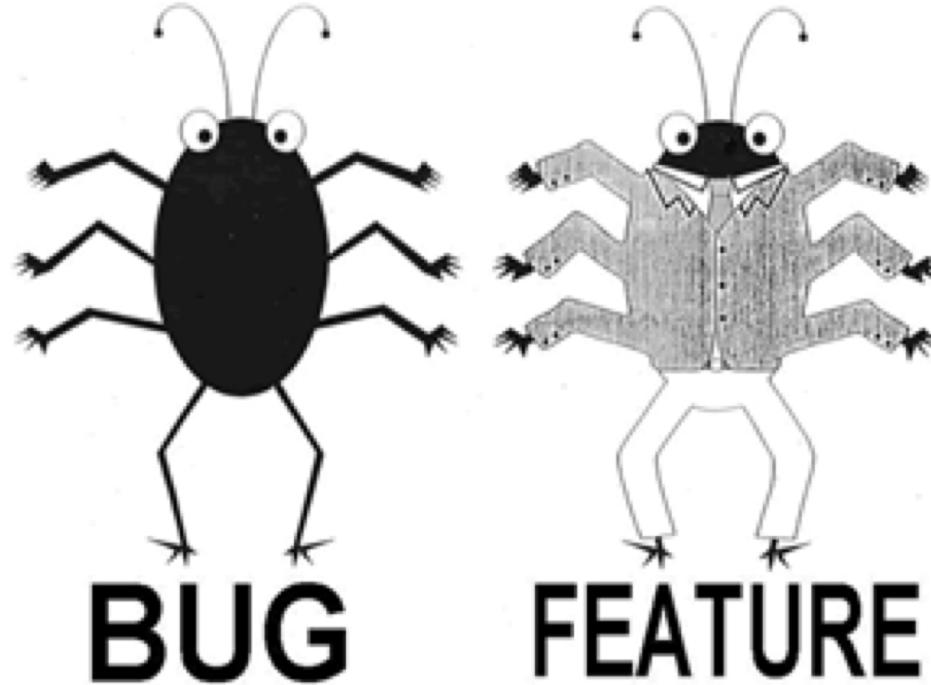
Variable type errors

Timing errors

Logic errors

System errors

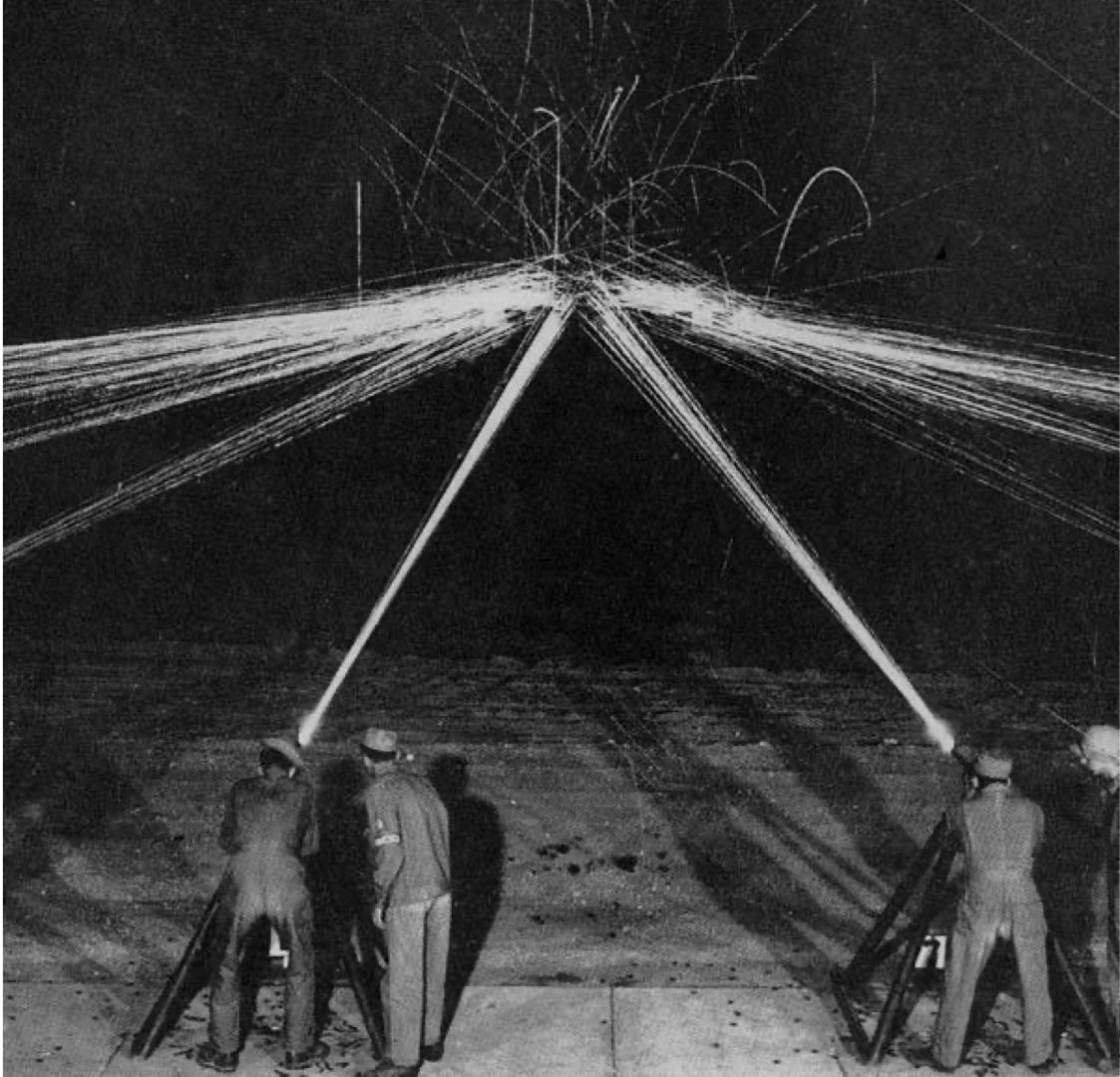
Unknown errors



# Tracing

## Console

Tool output naar  
de debugger:  
`console.log()`



# Script werkt niet

```
<div id = "answer">hier komt het antwoord</div>
<script>
    let a = "1";
    let b = 2;
    let c = a+b;
    let answer = document.getElementById("answer");
    if (c == 3) {
        answer.innerHTML = c;
    }
</script>
```

# Script werkt niet

```
<div id = "answer">hier komt het antwoord</div>

<script>
    let a = "1";
    let b = 2;
    let c = a+b;
    let answer = document.get
    if (c == 3) {
        console.log("kom ik in")
        answer.innerHTML = c;
    }
</script>
```

Tracer: test met  
console.log of je in  
de “if” komt

# Script werkt niet

```
<div id = "answer">hier komt het antwoord</div>
<script>
    let a = "1";
    let b = 2;
    let c = a+b;
    let answer = document.getElementById("answer")
    console.log(c);
    if (c == 3){
        answer.innerHTML
    }
</script>
```

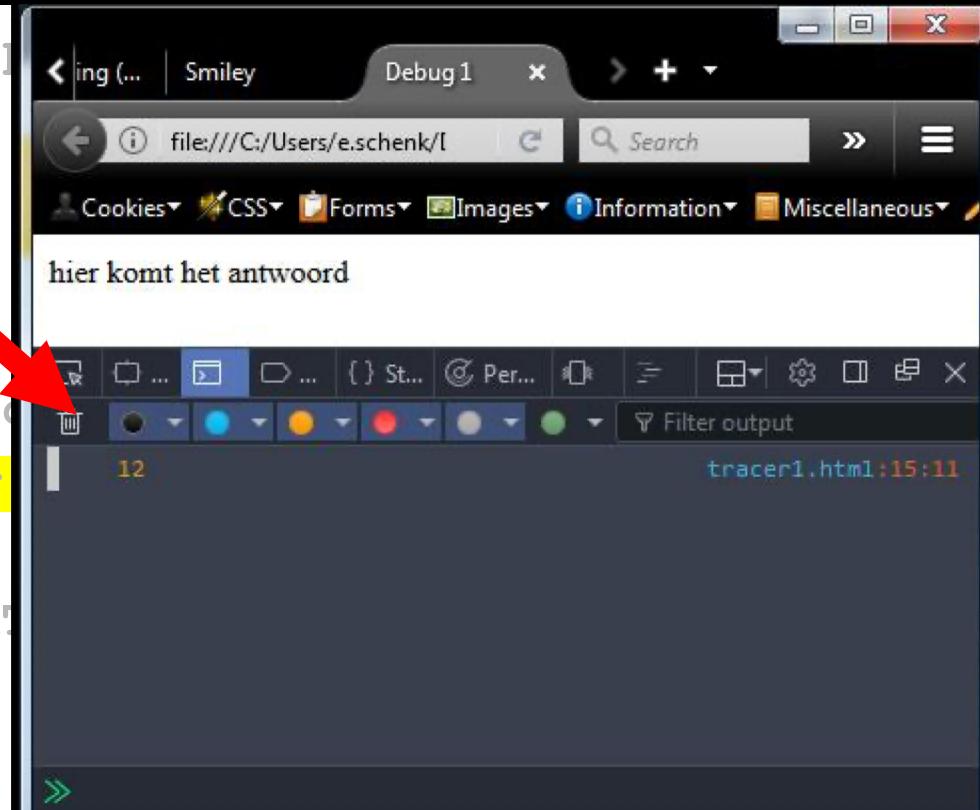
Tracer: bekijk met  
console.log de  
waarde van c

Tracer:

console.log(c)

geeft 12 . Dit had  
3 moeten zijn.

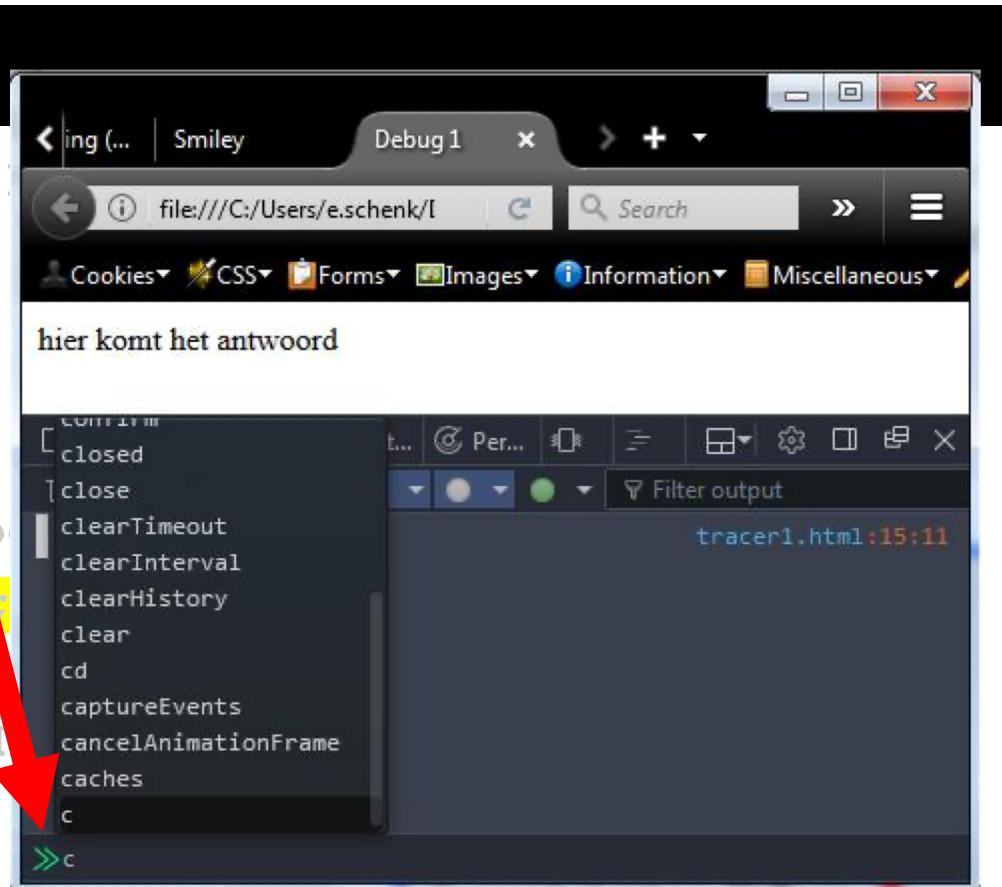
```
let answer = document.getElementById("p1");
console.log(c);
if (c == 3) {
    answer.innerHTML = "hier komt het antwoord";
}
</script>
```



In de console, type c.

Hiermee vraag je de waarde van c op.

```
let c = a+b;  
let answer = document.getElementById("answer");  
console.log(c);  
if (c == 3) {  
    answer.innerHTML = "Correct";  
}  
</script>
```



## Opdracht voorbeeld

In de console, type c.

De waarde van c is

“12”. Let op stringquotes,  
c is een string

```
let answer = document.getElementById("answer");
answer.innerHTML = "hier komt het antwoord";
console.log(c);
if (c == 3) {
    answer.innerHTML = "12";
}
</script>
```

The screenshot shows a browser developer tools window titled 'Debug 1'. In the top navigation bar, there is a tab labeled 'Debug 1' which is highlighted. Below the tabs, there is a toolbar with various icons. The main area of the window has a dark background with some UI elements. A red arrow points from the text 'c is een string' in the slide to the variable 'c' in the debugger's output pane. The output pane shows the following text:  
12  
» c  
← "12"  
The variable 'c' is circled with a red oval, and the value '12' is also circled with a red oval. At the bottom of the output pane, there is a green double-greater-than symbol '»|'. The status bar at the bottom right of the window shows the file path 'tracer1.html:15:11'.

# Script werkt niet

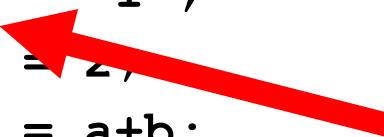
```
<div id = "answer">hier komt het antwoord</div>
<script>
    let a = "1";
    let b = 2;
    let c = a+b;
    let ans = document.getElementById("answer");
    console.log(c);
    if (c == 3) {
        answer.innerHTML = c;
    }
</script>
```

De waarde van c is  
“12”. c is een string

# Script werkt niet

```
<div id = "answer">hier komt het antwoord</div>  
  
<script>  
let a = "1";  
let b = 2;  
let c = a+b;  
let answer = document.getElementById("answer");  
console.log(c);  
if (c == 3) {  
    answer.innerHTML = c;  
}  
</script>
```

Probleem a is “1”.  
a is een string



# Script werkt niet

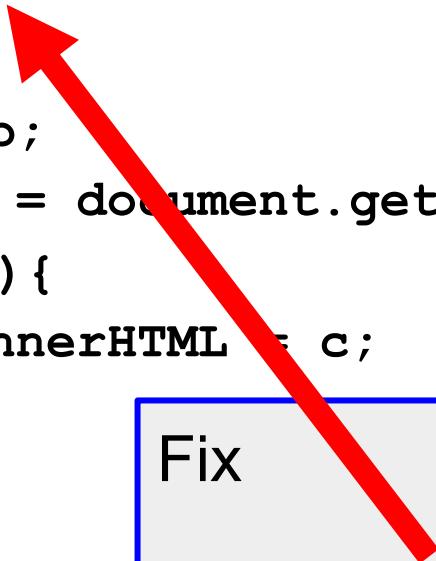
```
<div id = "answer">hier komt het antwoord</div>  
  
<script>  
let a = 1;  
let b = 2,  
let c = a+b;  
let answer = document  
console.log(c);  
if (c == 3) {  
    answer.innerHTML = c;  
}  
</script>
```

Fix

a is een integer

# Script werkt niet

```
<div id = "answer">hier komt het antwoord</div>  
  
    <script>  
        let a = 1;  
        let b = 2;  
        let c = a+b;  
        let answer = document.getElementById("answer");  
        if (c == 3) {  
            answer.innerHTML = c;  
        }  
    </script>
```

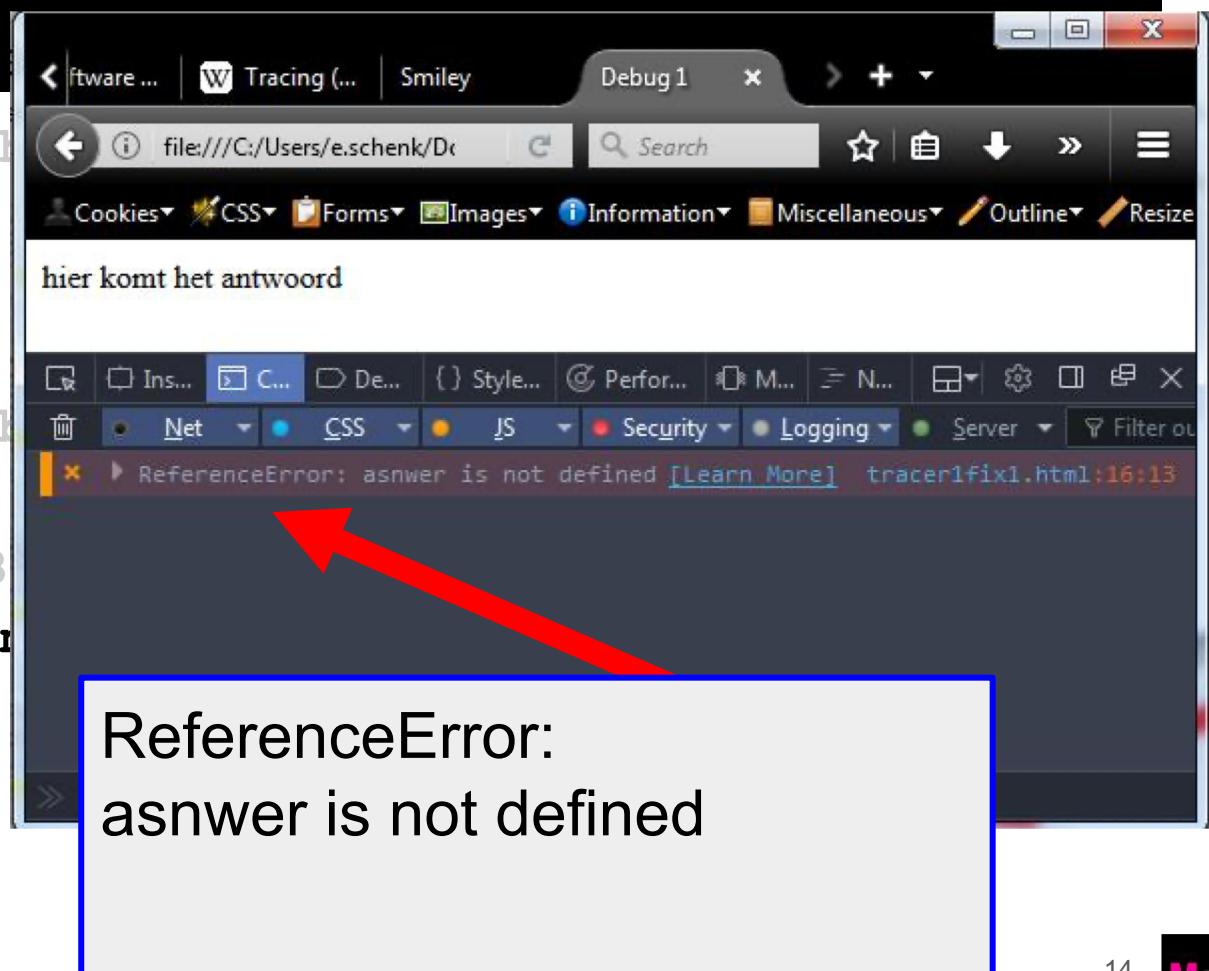


Fix

a is nu een integer

# Script werkt niet

```
<div id = "answer">
    <script>
        let a = 1;
        let b = 2;
        let c = a+b;
        let answer
        if (c == 3)
            answer.in
        }
    </script>
```



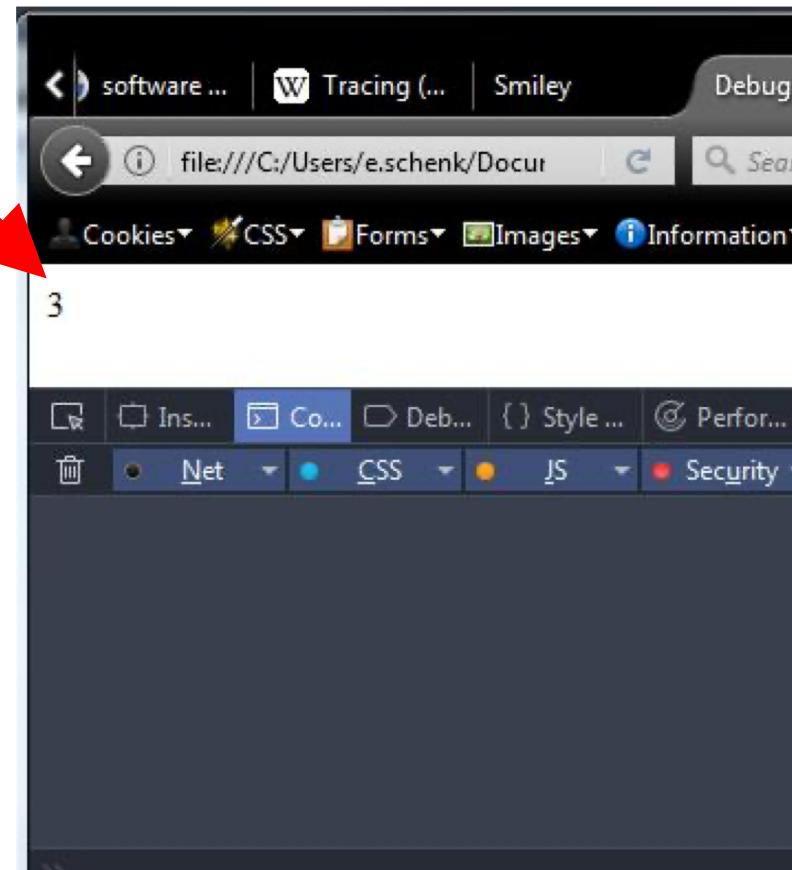
# Script werkt!!!

— C:\Users\e.schenk\Documents\1MA 2016 2017\FRO\debuggen — Atom

Selection Find Packages Help

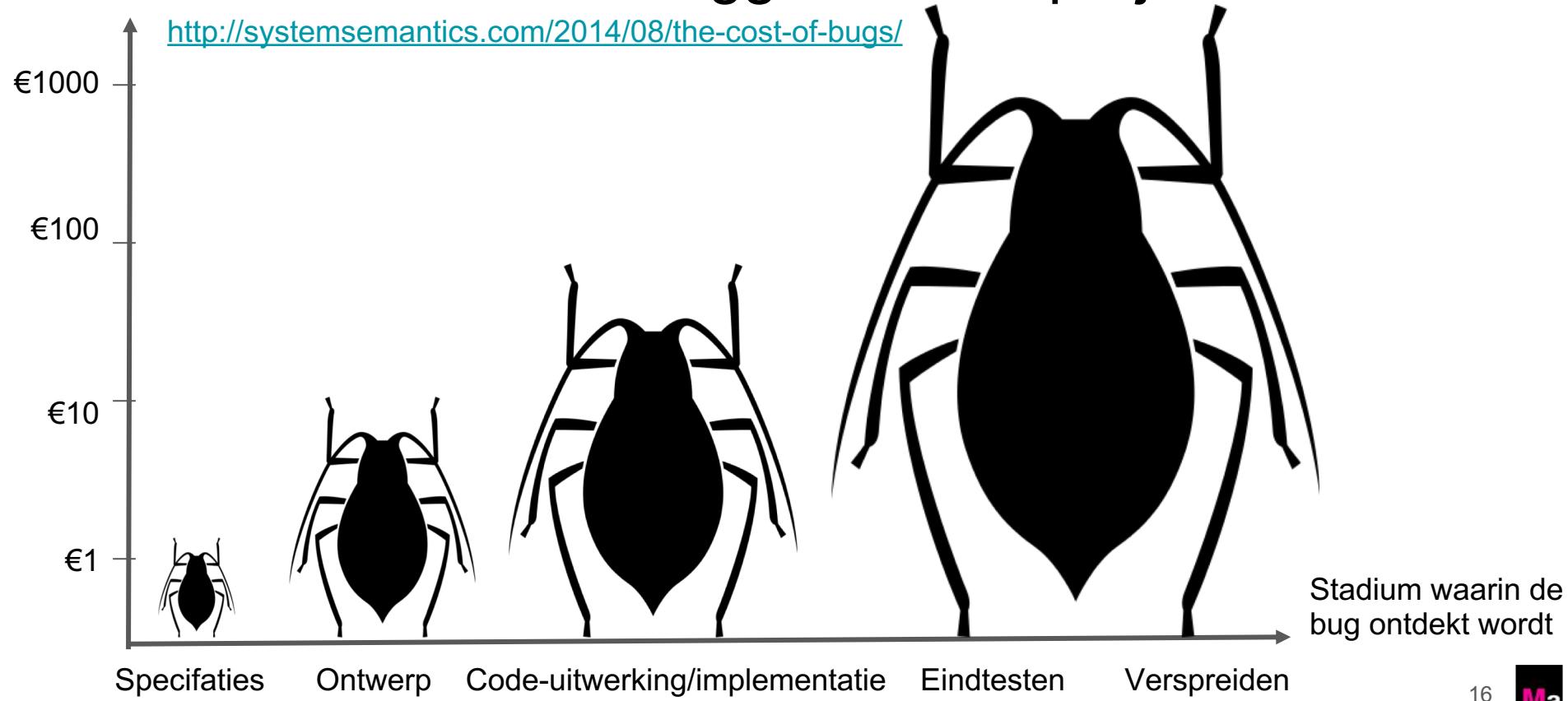
```
tracer1fix1.html
1 <!doctype html>
2 <html>
3   <head>
4     <meta charset="utf-8">
5     <title>Debug 1</title>
6   </head>
7   <body>
8     <header></header>
9     <div id = "answer">hier komt het antwoord</div>
10    <script>
11      let a = 1;
12      let b = 2;
13      let c = a+b;
14      let answer = document.getElementById("answer")
15      if (c == 3){
16        answer.innerHTML = c;
17      }
18    </script>
19  </body>
20 </html>
```

fix1.html 19:11 LF UTF-8 HTML

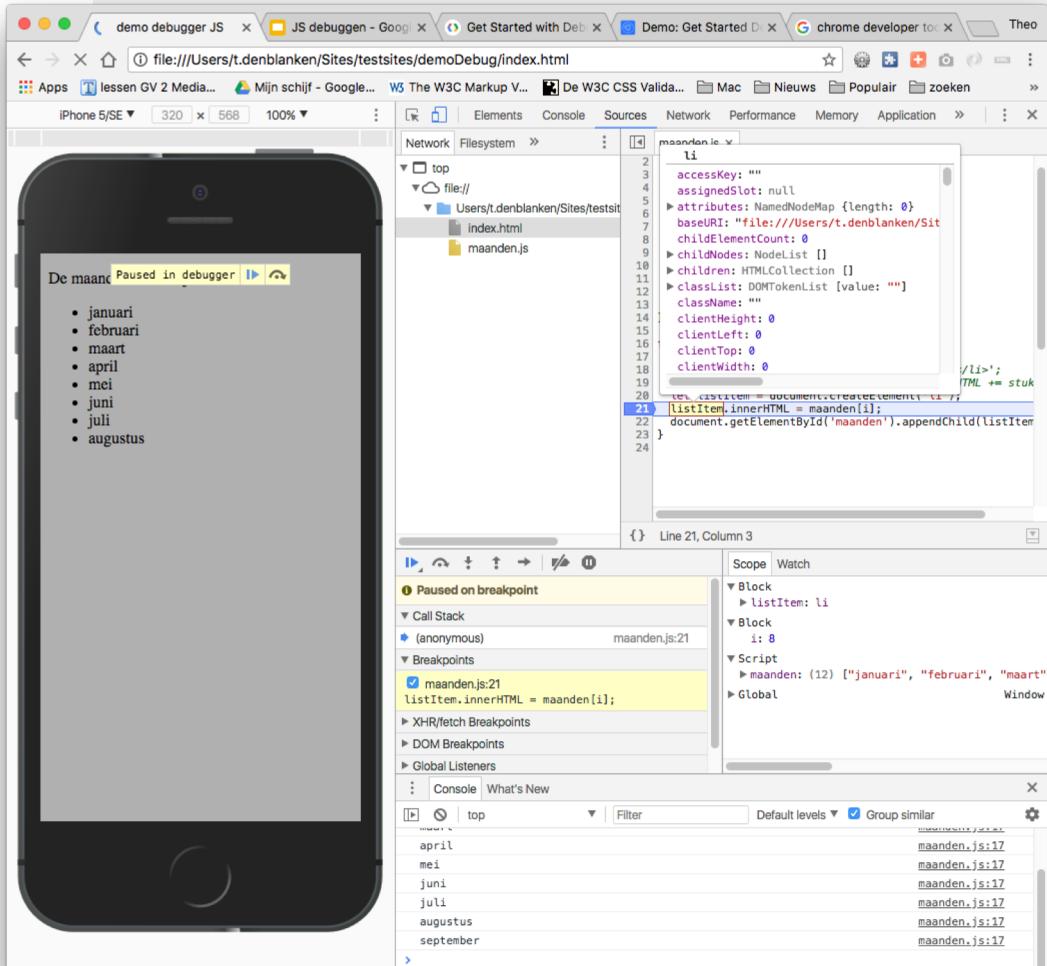


# De kosten van het debuggen in een project

<http://systemsemantics.com/2014/08/the-cost-of-bugs/>



# JavaScript debuggen met Chrome developertools



# Opdracht 1.

<https://developers.google.com/web/tools/chrome-devtools/javascript/>

Open bovenstaande link (Google Chrome)

Loop de 7 stappen door en maak van de laatste stap 7 een screenshot van browser inclusief debugger;

Deze inleveren in ELO Magister

# Bonus

Ontwikkel verder in Chrome-devtools op de pagina zoals hiernaast:

- Zorg ervoor dat ook decimale cijfers correct verwerkt worden;
- Probeer jouw naam in het antwoord verwerkt te krijgen
- Pas de stijl aan.

The screenshot shows the Chrome DevTools interface with the 'Sources' tab selected. A script named 'get-started.js' is open. In the bottom right corner of the code editor, there is a status bar indicating 'Line 44, Column 47'. On the right side of the screen, the 'Breakpoints' sidebar is visible, showing various event listeners for different DOM elements. The 'click' event listener for the button element is currently selected, indicated by a yellow highlight. The code in 'get-started.js' contains logic for adding two numbers and handling empty inputs.

```
1 //C
2 // License, Version 2.0 (the "License");
3 // except in compliance with the License.
4 // THE SOFTWARE IS PROVIDED "AS IS", WITHOUT ANY WARRANTY OR IMPLIED.
5 // SPECIFIC LANGUAGE GOVERNING PERMISSIONS AND
6 // RESTRICTIONS THEREUNDER.
7 // See LICENSE-2.0
8 //
9 // cable law or agreed to in writing, software
10 // license is distributed on an "AS IS" BASIS,
11 // WARRANTIES OF ANY KIND, either express or implied.
12 // specific language governing permissions and
13 // restrictions thereunder.
14 //Ily='sans-serif';
15 //
16 //
17 // for one or both inputs are empty.';
18 if (Number1.value === '' || Number2.value === '') {
19   alert('Please enter two numbers');
20   return;
21 }
22 const sum = Number1.value + Number2.value;
23 document.querySelector('#result').innerHTML = `The result is ${sum}`;
24
25 function addNumber1() {
26   const number1 = Number(Number1.value);
27   const number2 = Number(Number2.value);
28   const sum = number1 + number2;
29   document.querySelector('#result').innerHTML = `The result is ${sum}`;
30 }
31
32 function addNumber2() {
33   const number1 = Number(Number1.value);
34   const number2 = Number(Number2.value);
35   const sum = number1 + number2;
36   document.querySelector('#result').innerHTML = `The result is ${sum}`;
37 }
38
39 function calculateSum() {
40   const number1 = Number(Number1.value);
41   const number2 = Number(Number2.value);
42   const sum = number1 + number2;
43   document.querySelector('#result').innerHTML = `The result is ${sum}`;
44 }
45
46
47
```

# Opdracht 2.

Download de bestanden (Magister):

1. debugging.js
2. Debugging.html
3. In de javascript code staan een aantal fouten in de for – loop. Maak de code correct. Gebruik de debugger hiervoor.

**INLEVEREN IN MAGISTER**