

```
> console.log("hello world!");
hello world!
< undefined
> const myExample = 5;
< undefined
> function multiplByTen(n) {
    return n * 10;
}
```

Decipher with DevTools

```
<link rel="stylesheet" href="chrome://resources/css/text_defaults_md.css">
<link rel="stylesheet" href="shared_vars.css">
<dom-module id="cr-hidden-style" assetpath="chrome://resources/"></dom-module>
<dom-module id="cr-icons" assetpath="chrome://resources/"></dom-module>
<dom-module id="cr-shared-style" assetpath="chrome://resources/"></dom-module>
<dom-module id="cr-input-style" assetpath="chrome://resources/"></dom-module>
<script type="module" src="./lazy_load...>
<dom-module id="cr-radio-button-style" assetpath="chrome://resources/"></dom-module>
</body>
```

```
> console.log(window.getComputedStyle(body).background-color);
rgb(255, 255, 255)
< undefined
> console.log(document.body.style.backgroundColor);
rgb(255, 255, 255)
```

```
< undefined
> body.style.backgroundColor = "#663399";
> '#663399'
> console.log(body.style.backgroundColor);
rgb(102, 51, 153)
< undefined
```

Why isn't my code doing what I tell it to do?!?
(Hint: it is!)

understand

What is 'logging'?

creates a log in the console

console.log() allows strings, variables or a combination to be printed to the log

console.error()

console.warn()

```
> console.log("hello world!");  
hello world! VM1010:1
```

```
> console.error("custom error message");  
✖ ▶ custom error message VM949:1
```

```
> console.warn("custom warning");  
⚠ ▶ custom warning VM1121:1
```

```
> console.log("hello world!");
hello world!
< undefined
> console.log(myExample = 5);
5
< undefined
> function multiplByTen(n) {
  return n * 10;
}
```

The console is live!

```
< undefined
> console.log(myExample * 10);
50
< undefined
```

```
> body = document.body;
```

interact with your document in its current state

log current values of variables and functions (no quotes)

manipulate, define and call variables and functions

use () to call a function

```
> console.log(window.getComputedStyle(document.body));
rgb(255, 255, 255)
< undefined
> console.log(document.body.style.backgroundColor);
rgb(255, 255, 255)
< undefined
> body.style.backgroundColor = "#663399";
< '#663399'
> console.log(body.style.backgroundColor);
rgb(102, 51, 153)
< undefined
```

```
> console.log(currentScore);
2 VM1254:1
```

```
> console.log(currentScore);
2 VM451:1
< undefined
> ++currentScore;
3
> console.log(currentScore);
3 VM520:1
```

```
> console.log("hello world!");
hello world!
< undefined
> console.log(myExample);
5
< undefined
> function multiplByTen(n) {
  return n * 10;
}
```

Engaging with the elements!

```
< undefined
> console.log(window.getComputedStyle(document.body));
50
< undefined
> document.body;
< <body style="background-color: rgb(102, 51, 153);">
  <iframe id="backgroundImage" src="unknown">_</iframe>
  <ntp-app>_</ntp-app>
  <script type="module" src="new_tab_page.js"></script>
  <link rel="stylesheet" href="chrome://resources/css/text_defaults_md.css">
  <link rel="stylesheet" href="shared_vars.css">
  <dom-module id="cr-hidden-style" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-icons" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-shared-style" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-radio-button" assetpath="chrome://resources/">_</dom-module>
  <script type="module" src="./lazy_load.js"></script>
  <dom-module id="cr-radio-button-style" assetpath="chrome://resources/">_</dom-module>
  </body>
> console.log(window.getComputedStyle(document.body).getPropertyValue("background-color"));
rgb 255, 255, 255
< undefined
> console.log(document.body.style.backgroundColor);
rgb 255, 255, 255
< undefined
> document.body.style.backgroundColor = "#663399";
< '#663399'
> console.log(document.body.style.backgroundColor);
rgb 102, 51, 153
< undefined
>
```

<https://daveyjh.github.io/ci-content/devtools.html>

```

> console.log("hello world!");
hello world!
< undefined
> console.log(myExample);
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> function multiplByTen(n) {
  return n * 10;
}

```

Engaging with the elements!

```

> console.log(myExample * 10);
50
< undefined

```

```

> body = document.body;
< undefined

```

log elements to allow identification via hover

```

< body <div>
  <iframe id="backgroundImage" src(unknown)>_</iframe>
  <ntp-app>_</ntp-app>
  <script type="module" src="new_tab_page.js"></script>
  <link rel="stylesheet" href="chrome://resources/css/text_defaults_md.css">
  <link rel="stylesheet" href="shared_vars.css">
  <dom-module id="cr-input-style" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-icons" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-shared-style" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-input-style" assetpath="chrome://resources/">_</dom-module>
  <script type="module" src="./lazy_load.js"></script>
  <dom-module id="cr-input-style" assetpath="chrome://resources/">_</dom-module>
  <body>

```

right click and 'Reveal in Elements Panel'

view inline element attributes from HTMLCollections

```

> console.log(window.getComputedStyle(body).getPropertyValue("background-color"));
rgb(255, 255, 255)
< undefined

```

```

> console.log(document.body.style.backgroundColor);
rgb(255, 255, 255)
< undefined

```

changes made take immediate effect

```

> body.style.backgroundColor = "#663399";
< '#663399'
> console.log(body.style.backgroundColor);
rgb(102, 51, 153)
< undefined

```


Lagging listeners!

<https://daveyjh.github.io/ci-content/devtools-listeners.html>

```
> console.log("hello world!");
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> console.log(myExample * 10);
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< undefined
> body = document.body;
< <body style="background-color: rgb(102, 51, 153);">
  <iframe id="backgroundImage" src(unknown)>_</iframe>
  <ntp-app>_</ntp-app>
  <script type="module" src="new_tab_page.js"></script>
  <link rel="stylesheet" href="chrome://resources/css/text_defaults_md.css">
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  <dom-module id="cr-hidden-style" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-icons" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-shared-style" assetpath="chrome://resources/">_</dom-module>
  <dom-module id="cr-input-style" assetpath="chrome://resources/">_</dom-module>
  <script type="module" src="./lazy_load.js"></script>
  <dom-module id="cr-radio-button-style" assetpath="chrome://resources/">_</dom-module>
  </body>
> console.log(window.getComputedStyle(body).getPropertyValue("background-color"));
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> console.log(document.body.style.backgroundColor);
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rgb 102, 51, 153)
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```

```
> console.log("hello world!");
hello world!
< undefined
> console.log(myExample);
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< undefined
> function multiplByTen(n) {
  return n * 10;
}
```

Lagging listeners!

```
< undefined
> console.log(myExample);
50
< undefined
> body = document.body;
```

use Event Listeners tab

```
< <body -type="module" id="cr-app" style="background-color: #663399;">
  <iframe id="backgroundImage" src="(unknown)"></iframe>
  <script type="module" src="new_tab_page.js"></script>
  <link rel="stylesheet" href="chrome://resources/css/text_defaults_md.css">
  <link rel="stylesheet" href="shared_vars.css">
  <dom-module id="cr-app">
    <dom-module id="cr-icons" assetpath="chrome://resources/"></dom-module>
    <dom-module id="cr-shared-style" assetpath="chrome://resources/"></dom-module>
    <dom-module id="cr-input-style" assetpath="chrome://resources/"></dom-module>
    <script type="module" src="lazy_load.js"></script>
    <dom-module id="cr-input" assetpath="chrome://resources/"></dom-module>
  </dom-module>
</body>
```

use what you need, don't worry about the rest

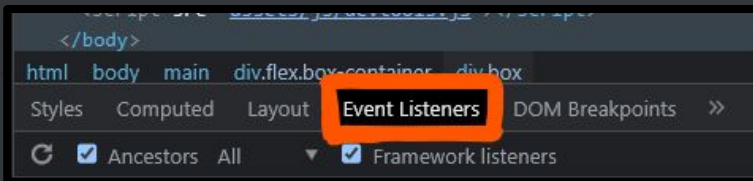
listeners are separated into listener types

```
> console.log(window.getComputedStyle(body).getPropertyValue("background-color"));
rgb 255, 255, 255)
< undefined
> console.log(document.body.style.backgroundColor);
rgb 255, 255, 255)
< undefined
```

tab does not auto-update, de-select and re-select elements to get an up-to-date list

```
> document.body.style.backgroundColor = "#663399";
< '#663399'
> console.log(body.style.backgroundColor);
rgb 102, 51, 153)
< undefined
```

be aware of lag, issues may occur at a much later time



Console Errors!

<https://daveyjh.github.io/ci-content/errors.html>

Console Errors!

errors show the line that has raised the error

if the error line is nested or called within a function or similar, a logical flow is shown

the error may be in the logic leading up to the line that raises the error

remember to check the scope of your variables etc.

DevTools Debug!

<https://daveyh.github.io/ci-content/devtools-debug.html>

DevTools Debug!

add breakpoints to your script

step through your code one line at a time keeping track of variable values

add multiple breakpoints if you are unsure where your bug is happening

untick breakpoints to temporarily prevent them pausing your script

Crafty Coverage!

<https://daveyjh.github.io/ci-content/quiz.html>

```

> console.log("hello world!");
hello world!
< undefined
> console.log(myExample = 5);
5
< undefined
> function multiplByTen(n) {
  return n * 10;
}

```

Crafty Coverage!

```

< console.log(myExample * 10);
50

```

```

< undefined
> body = document.body;

```

enable with commands - **Ctrl** , **Shift** + **P** then type **'coverage'**

- refresh page and run through all possible inputs and situations

- viewing source file at the same time identifies un-tested lines

- helps identify unnecessary code

```

> console.log(document.body.style.backgroundColor);
rgb(255, 255, 255)
< undefined
> console.log(body.style.backgroundColor);
rgb(102, 51, 153)
< undefined
>

```



```
> console.log("hello world!");  
hello world!  
⏏ undefined  
> const myExample = 5;  
⏏ undefined  
> function multiplByTen(n) {  
  return n * 10;  
}  
⏏ undefined  
> console.log(multiplByTen(myExample));  
50
```

```
⏏ undefined  
> body = document.body;  
⏏ <body style="background-color: rgb(102, 51, 153);">  
  <iframe id="backgroundImage" src="unknown"></iframe>  
  <ntp-app></ntp-app>  
  <script type="module" src="new tab page.js"></script>  
  <link rel="stylesheet" href="chrome://resources/css/text_defaults_md.css">  
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  <dom-module id="cr-input-style" assetpath="chrome://resources/"></dom-module>  
  <script type="module" src="./lazy_load.js"></script>  
  <dom-module id="cr-radio-button-style" assetpath="chrome://resources/"></dom-module>  
</body>
```

```
> console.log(window.getComputedStyle(body).getBackgroundImage());  
rgb(255, 255, 255)  
⏏ undefined  
> console.log(document.body.style.backgroundColor);  
rgb(255, 255, 255)  
⏏ undefined  
> body.style.backgroundColor = "#663399";  
⏏ '#663399'  
> console.log(body.style.backgroundColor);  
rgb(102, 51, 153)  
⏏ undefined  
>
```

Decipher with DevTools

Hope this has helped!
Time to start enjoying
JavaScript!