

## DEVELOPMENT TOOLS

**Please Note:** This worksheet aims to explain (among other topics) the different tools available in Google's Chrome Browser. For more information go to the [official documentation](#). Other browsers have similar functionality so you should be able to take advantage of this info in most of them.

Before implementing the exercises, download the file "DevTools\_Base.zip" from Moodle and expand its content to a folder. You can use the provided code and folder structure to solve the exercises.

- 1) Open the index.html file on web-starter-kit/app (based on the [project from Google](#)) in Chrome, open the Developer Tools (Ctrl+Shift+I/Cmd+Option+I) and answer the following questions (note: you can use the right-click inspect context menu option to figure out the answers)



- a) What selector is applying the "pink" color to the + button?  
mdl-color--accent
- b) In which file is the code that defines the handler for the top menu options? (note: see the Event listeners tab on the element's properties)  
layout.js
- c) What is the width of the last div with the class mdl-card in the main tab?
  - i) If the element is difficult to find try running this code on the console tab:

```
document.getElementsByClassName('mdl-card')
```

- d) How many local Javascript files are being loaded by the page? (note: look in the sources tab)
- 2) Edit the dad.js file located on the app/scripts folder and uncomment the lines regarding each of the following questions:
    - a) What's the difference between console.log() and console.dir() when using a DOM element as the parameter?
    - b) What does console.table() do?
    - c) Place a breakpoint on the line the contains the **for** expression to help debug the error.
      - i) Use the step over option to navigate the various iterations of the for loop.

- d) Remove the previous breakpoint and add a new one on the line inside the for loop. Right-click on the breakpoint and choose the Edit option, then write the following expression. What did it do?

```
array[i]==undefined
```

- i) What would be the simplest way to fix this bug?
- e) Open the Application tab of the Developer tools. Can you locate where the data that's being written to the console is stored?
- Comment all lines related to localStorage and sessionStorage in dad.js file (2 lines on top and 2 lines on bottom). Close the browser and reopen it on the same page. Analyze again the Application tab of the Developer tools. What's the difference between localStorage and sessionStorage?
- 3) Select the Network tab on the Developer Tools
- a) Hold left-click the refresh button. What options did you see?
- b) On the Network tab select "Slow 3G" from the rightmost option (that should currently have the "no throttling" option selected), and repeat the step in 3.a, guarantying that cache is empty before reloading the page. What happened? Analyze the "Waterfall section", and discover what were the last elements on the page to get "defined"?
- 4) There are two icons   on the leftmost part of the tab selection in the Developer tools.
- a) Click the first one and move your mouse around the page. What does this option do?
- b) Click the second one. What does this option do?
- i) See what other options are available using the first select box and choosing Edit
- 5) Navigate to <https://codepen.io/sasstantrum/pen/jyBLpq>
- a) What CSS PreProcessor is this pen using?
- b) Fork the pen (you can use an anonymous account for the purpose of this task) and try changing some of the colors.
- 6) Navigate to <https://codepen.io/sasstantrum/pen/pyOgre>
- a) On the CSS editor click the downward arrow (top right) and choose "View Compiled CSS". What's one advantage of the SASS (SCSS) code versus the final CSS?

## EXTRA CLASS

- 1) Linters are software that analyses our code to highlight both syntax errors, bad coding practices and potential problems. There are many linters for almost all programming languages. Since in this class we'll be focusing more on Javascript we'll use one of the linters available for this language – JSHint. Here are both the instructions for installing it (requires nodejs) and using it in some commonly used IDEs for web development:
  - a) Install JSHint: <http://jshint.com/install/>
  - b) JSHint in Sublime Text: <https://github.com/victorporof/Sublime-JSHint>
    - i) Check this alternative for sublime: <http://www.sublimelinter.com/en/latest/index.html>
  - c) JSHint in Atom: <https://atom.io/packages/atom-jshint>
  - d) JSHint in VS Code  
<https://marketplace.visualstudio.com/items?itemName=dbaumer.jshint>
- 2) During the semester we'll be using as a server-side environment, either the virtualization framework Vagrant or the Laragon local server. Install and configure both environments:
  - a) Laragon - <https://laragon.org/>
  - b) Vagrant:
    - i) Install VirtualBox  
(1) <https://www.virtualbox.org/wiki/Downloads>
    - ii) Install Vagrant  
(1) <https://www.vagrantup.com/downloads.html>
    - iii) Follow these instructions to install Laravel Homestead  
(1) <https://laravel.com/docs/master/homestead>
- 3) If Laragon or Vagrant with Laravel Homestead can't be correctly installed on your computer, consider using one of the following alternatives:
  - a) WAMP with Laravel
    - i) <https://www.youtube.com/playlist?list=PL9BKrt6LUUztSVhFfeqWNRuYG3Jq8hepO>
  - b) Use Docker and install required components (Web Server; Database; etc.) on Containers
    - i) <https://www.docker.com>
    - ii) Install all required services manually.