FRONT-END DEBUG CHECKLIST

Most issues people will run into come down to a few basic things: Spelling & capitalization, syntax, or not having script tags linked in the proper order.

GENERAL

1. Is your **file saved**?
2. Make sure you're editing **the right file**. You can have multiple files on your computer with the same name. (Later in the course this can also be caused by caching.)
    a. When you make a change to the file, do you see it in the browser?
    b. Look at your file in the Dev Tools sources tab. Make sure it matches what's in your editor.
3. Is your CSS or JavaScript file **properly linked** to your HTML? Check for **spelling or capitalization mistakes**.
    a. In the Dev Tools console look for **ERR_FILE_NOT_FOUND**.
    b. In the Dev Tools **sources tab**, verify that Chrome is picking up all your expected files.

HTML

1. Look very closely that all of your tags are closed properly and that your attribute values have open and closing quotes. Messing up one little symbol can sabotage your entire program.
2. Make sure all your opening tags have a matching closing tag in the right place.
3. **In Atom, check for the colors** of the text to be what you normally see: Tags are red. Attribute names are orange. Attribute values are green. Normal text is white. If the colors are off, look for the first place in the file where they start to get off. Somewhere around there is an issue.
4. In Atom, sort out your **indentation**. It will help keep you on track and find mistakes. Use the beautify plugin. If it doesn't do what you expect, you probably have a mistake.
5. Another way to check that your tags are right is to use the Dev Tools inspector. If the HTML DOM looks different than the structure you have in your HTML file, you probably have a mistake somewhere.

CSS

6. Is your CSS having any effect? Try adding an obvious property like an orange border to see if your CSS rule is working at all. Are you using the right CSS selector (`p` vs. `#p` vs. `.p`)? Is your CSS file saved and linked?

7. Use the Dev Tools elements inspector to see what CSS rules are actually getting applied. Play with the properties and values there and then copy your changes to Atom.

JAVASCRIPT

1. Are there red **errors in the Dev Tools console**?
    a. ERR_FILE_NOT_FOUND errors mean Chrome can't find a file. Could be a spelling/capitalization mistake or some other problem.
    b. The error almost always gives you the file and **line number** at (*or near*) where the error happened.
    c. SyntaxError: unexpected or missing token -- Might be your **brackets or parentheses aren't matching up** correctly. Proper **indentation** and using beautify can help track these down.
    d. ReferenceError: ___ **is not defined** -- The blank is a variable you're trying to use, but that variable doesn't exist. Carefully check spelling and capitalization.
    e. TypeError: **Cannot read property ___ of** null/undefined -- Your code is accessing a property of an object, but the *object* is null or undefined. For example, if the code `myElement.innerHTML` produces the error message "Cannot read property innerHTML of null", `myElement` is null.
2. Is your code even running? Is it running in the right order? Why guess? Pop in a temporary **console.log** or two to find out.
3. What values are in your variables? Add temporary console.log statements to find out.
    a. Sometimes I like to label my console.log statements to keep them straight. E.g. `console.log("backwardName", backwardName)` shows the value of the backwardName variable and labels it in the console.
4. If the error is related to your logic, try walking through your code with your neighbor. A fresh set of eyes often makes a world of difference. Also, we often spot our own mistake as soon as we try to explain our code to someone else.
5. Advanced: Open the Dev Tools sources tab, add some breakpoints, and step through your code.

JQUERY

1. Are all the JavaScript files included and in the right order?
    a. jQuery
    b. Your JavaScript file(s)

ANGULAR

1. If you see any brackets ({{ }}) in Chrome, your Angular code isn't working at all. You need to fix this before you try to fix any of your logic. Use all the tips in this document to figure it out.
2. Check the console and see if the link Angular provides has information for correcting the error
3. Can't find the Angular module?
    a. **Check the sources tab in Chrome.** Make sure all the relevant files are linked:
        i. The Angular script itself
        ii. The routing module, or anything else you're injecting (if applicable)
        iii. Any controller/service/etc files
    b. If they aren't in the sources tab, check the spelling. Is the script in a folder? Is the file name spelled correctly? Did you spell your script tag correctly? Did you spell src correctly?
    c. If you're using an IIFE, is the syntax of the IIFE correct?
    d. Did you use the correct syntax when declaring your module?
    e. Did you use the correct syntax when referencing your module in other files?
4. If the files are in the sources tab but the app is still not working:
    a. Are your files linked in the correct order in your html?
        i. The Angular script itself
        ii. The routing module, or anything else you're injecting (if applicable)
        iii. Any controller/service/etc files
    b. Is ng-app somewhere in your html?
    c. Is it in a place that makes sense? (Such as the <body> or <html> tags, and not the <head> tag.)
    d. If you aren't using routing, is ng-controller in a place that makes sense?
    e. If you are using routing, is templateUrl spelled correctly, and did you remember to use the controller property (if applicable)
    f. Is your syntax for $routeProvider correct in general? Are all your commas and semicolons in the correct places?
    g. Are your partials and controllers spelled correctly?

NODE

1. Look for errors in the terminal console as well as the Chrome console. You can also still use console.log here.
2. Make sure your app is (still) running. When it runs into errors it can crash and may need to be restarted. You have to fix the errors before it will actually start.