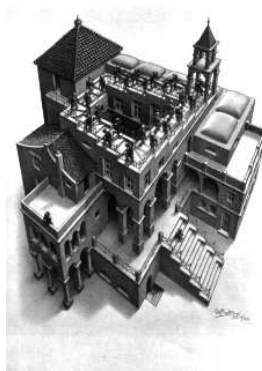# Assignment Vis 1

Due Date: February 15

Purpose

This small assignment is to ease you into using HTML, CSS, and JavaScript to create a web page that has some interaction, graphics, and animation. It will also allow you to think about a fun visualization problem.

Problem

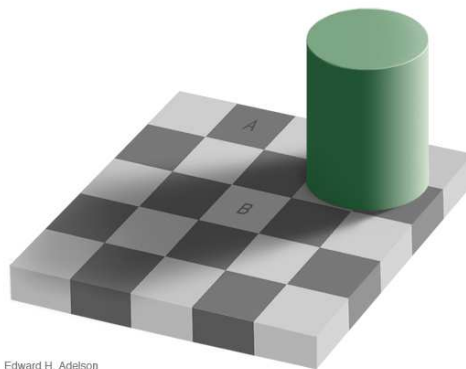There are many interesting optical illusions, some famous, such as Escher's staircase:

There are many, much simpler, illusions, such as the one shown below. In this case, called Adelson's Checker-Shadow Illusion, squares A and B actually are the exact same color/shade! I first saw this on a Happy Meal bag, and had trouble believing it, until I folded the paper in such a way so as to have the two squares next to one another. Yep, the color was exactly the same. So illusions are cool, but sometimes you have to convince the viewer that what is claimed is true. Go to

`https://michaelbach.de/ot/lum-adelsonCheckShadow/index.html`

for a visualization that tries to do just that for the image below (but which I think fails - perhaps you can do better?). Michael Bach's home page at

`http://www.michaelbach.de/ot/index.html`

has all sorts of interesting optical illusions (don't miss `http://michaelbach.de/ot/cog-impossHallucii/index.html`!).

Edward H. Adelson

Your job is to write a little CSS/JavaScript animation run from a web page that shows at least

two optical illusions with some animation/graphical method that will convince the viewer of your claim. You must do something different than what is shown on websites such as the above.

Input

Your animation should have a simple user interface (UI) to let the viewer change from one illusion to another. More importantly, there should be a button or other method to let the viewer set your visualization in motion to convince him/her of your claim, as well as to reset the scene to its original configuration.

Output

You must modify your home page (*index.html*) on the CS server (cs.wheatoncollege.edu). This makes the URL for your page `http://cs.wheatoncollege.edu`~*yourLoginID*. Include your name, course information, a link to your page that contains this project, and links to your previous resumé and cover letter. Space should be provided for links to forthcoming projects. You can include additional items on your page as you wish. Make your home page unique and colorful, but follow design guidelines from the *Web Style Guide*.

The illusion animation should be part of a full web page that has a banner, some explanatory text, good design, and so forth. The JavaScript should include one of (at least) two illusions at a time, the UI that controls everything, and a visualization/animation to convince the viewer of your claims.

Specifics

- Build your web pages with HTML5 and CSS. Since there are at least two pages, you should employ an external style sheet.

- Use JavaScript, canvas, and CSS for your graphics and animation. The use of D3 is fine, but not required.

- Your web pages should have a good title and a banner describing their contents.

- The animation(s) should be well integrated in the web page. Choose colors that go well together for the animation and the web page.

- You should use good web page design principles. It wouldn't hurt to peruse the *Web Style Guide* (see the link on the course web page).

- You can use any web page editor to create your pages.

Notes

- On the bottom of **all** of your html pages, include the following lines:

  ```
  Last updated
  <script>
      document.write(document.lastModified);
  </script>
  ```

- Upload all of your web pages to the server before 11:59:59 on the due date. You need not hand in any hard copy.

> *Beware of bugs in the above code; I have only proved it correct, not tried it.*
> – Donald Knuth