Test Plan: Spatial Gerrymandering

General Overview:

Data Visualization:
- Consistent visuals for the type of information being represented
- Readable
- Interactive ○ Pick and choose which metrics want to be compared
- For the heat map -> Location accuracy

Server Logistics:
- Accessing repository on GitHub
- Uploading public/private key pair for GitHub and CloudApps
- Initiating CloudApps build from Docker file in GitHub repository
- Accessing site URL upon finishing build

Technologies to be Tested:

Server-Side:
- Consistent format of output to the client
- Appropriate error handling ○ What to communicate to the client the server encountered an error
- Only allow authorized users to make requests
- Send JSON data from R backend to frontend using server-side variables passed from routes file.
- Handle EJS routing using / and /map directories.
- Error handling

Client-Side:
- Error handling if trouble accessing API
- What to output if received an error from server
- Automatic retries

Compatible Platforms:
- Standard web browsers (Explorer, Firefox, Chrome, etc.): full compatibility
- Mobile accessibility: limited access due to scaling and lack of mobile navigation bar

Instructions:

- Familiarize oneself with documentation at:

https://fisherzachary.github.io/
- Familiarize oneself with the project repository at:
  https://sc.unc.edu/dept-gerrymandering/gerrymandering
- Start build from the project repository using the CloudApps web console at:
  https://console.cloudapps.unc.edu/console/project/dept-gerrymandering/browse/builds/gerrymandering?tab=history
- Wait for build to complete. You can track progress in the build logs. Expected wait time is 30 minutes.
- Load webpage using project URL:
  http://gerrymandering-dept-gerrymandering.cloudapps.unc.edu/
- Click on the triangle at the bottom of the page to scroll down within the splash screen.
- Read instructions and click on "GET STARTED" button.
- You can now view the primary dashboard, which is loaded at the /map URL subdirectory.
- Select a measure on the side navigation bar to load measures onto the GIS map.
- Hover over the map to view the value of the measure for each voter tabulation district.
- When hovering over districts on the map, the data table beneath will scroll to and highlight the row for that particular district.
- Similarly, when hovering over a row on the data table, the district will be highlighted on the map and two data visualization charts for that district will appear to the right of the data table.
- You can toggle the sorting of the districts of the data table in ascending or descending order by clicking on the column titles (District, Reock, etc.) of the data table.
- You can click on the measure titles on the charts to the right of the data table in order to toggle them on and off.
- You can select new boundaries for classifying a district as gerrymandered (red vs. green coloration) using the boundaries drop down list on the left-side navigation bar.