

Analysis of Image Processing Results

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Dashboard Generation -

Introduction –

- The aim of this project is to design a dashboard for certain csv(comma separated value) and log files, which would display details of these in addition to certain graphs for indicating kernel execution times.
- The python program takes as input a csv file, its corresponding log file, median value files (if any) and path to the images which can be viewed in the dashboard.
- The skills used for the development of this dashboard are python, angularjs, javascript, bootstrap, css, html, matplotlib and jquery.

Procedure –

- The dashboard serves the purpose of displaying details such as kernel execution time, total time etc. on executing certain algorithms over several images and drawing a comparison between different test environment types.
- The set of csv files include details of algorithms such as sum of squared differences, mutual induction, gradient image filter etc.
- The aim was to display the logs of execution of these algorithms over certain images.
- Furthermore, graphs were also made using matplotlib, including comparison plots, box plots.
- Modules such as numpy were used.
- The initial task was to understand use of these tools and install libraries on my system.
- On executing the program, it generates a result.html file which displays the required details and graphs.
- Angularjs and jquery are used for sorting the contents within a table, according to column.
- Bootstrap, css are used for overall styling of the html file.
- Python is the language in which whole code is written.
- Matplotlib is used to generate comparison plots and box plots.

After these steps were considered, the main drawback of the site was that it took a lot of time to load.

Earlier jQuery hide/show methods were used for displaying certain sections of the site.

Now jQuery load method enabled pages to get loaded only when the user wanted so.

jQuery toggle()

With jQuery, you can toggle between the hide() and show() methods with the toggle() method.

jQuery load() Method

The jQuery load() method is a simple, but powerful AJAX method.

The load() method loads data from a server and puts the returned data into the selected element.

Syntax:

`$(selector).load(URL,data,callback);`

The required URL parameter specifies the URL you wish to load.

The optional data parameter specifies a set of querystring key/value pairs to send along with the request.

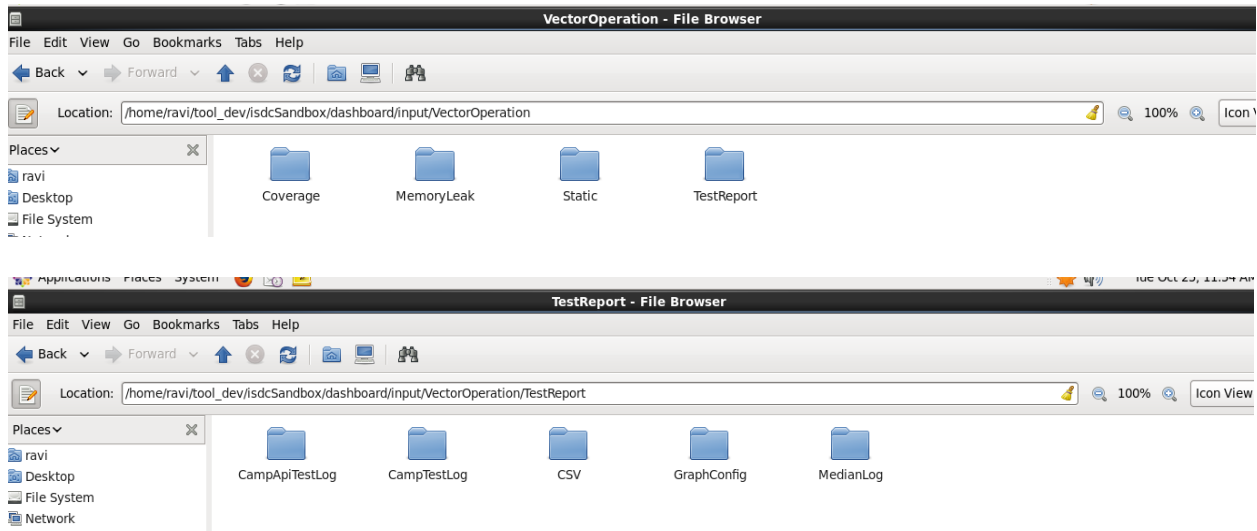
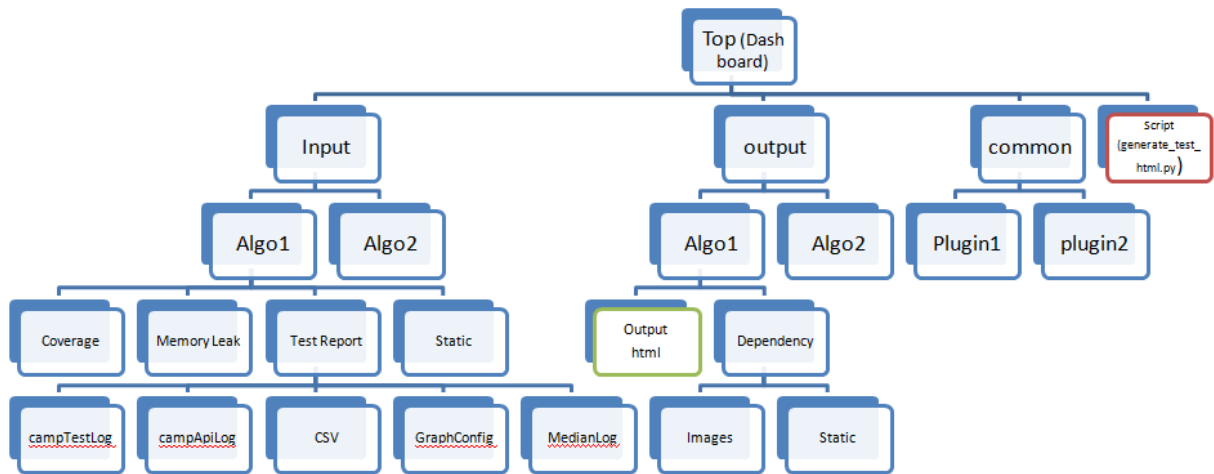
The optional callback parameter is the name of a function to be executed after the load() method is completed.

Another drawback of the site was that it required a lot of command line arguments to be given by user.

To overcome this drawback a certain folder structure was defined which a user has to create before running the code which generated this website.

The Folder Structure –

Dash board directory structure



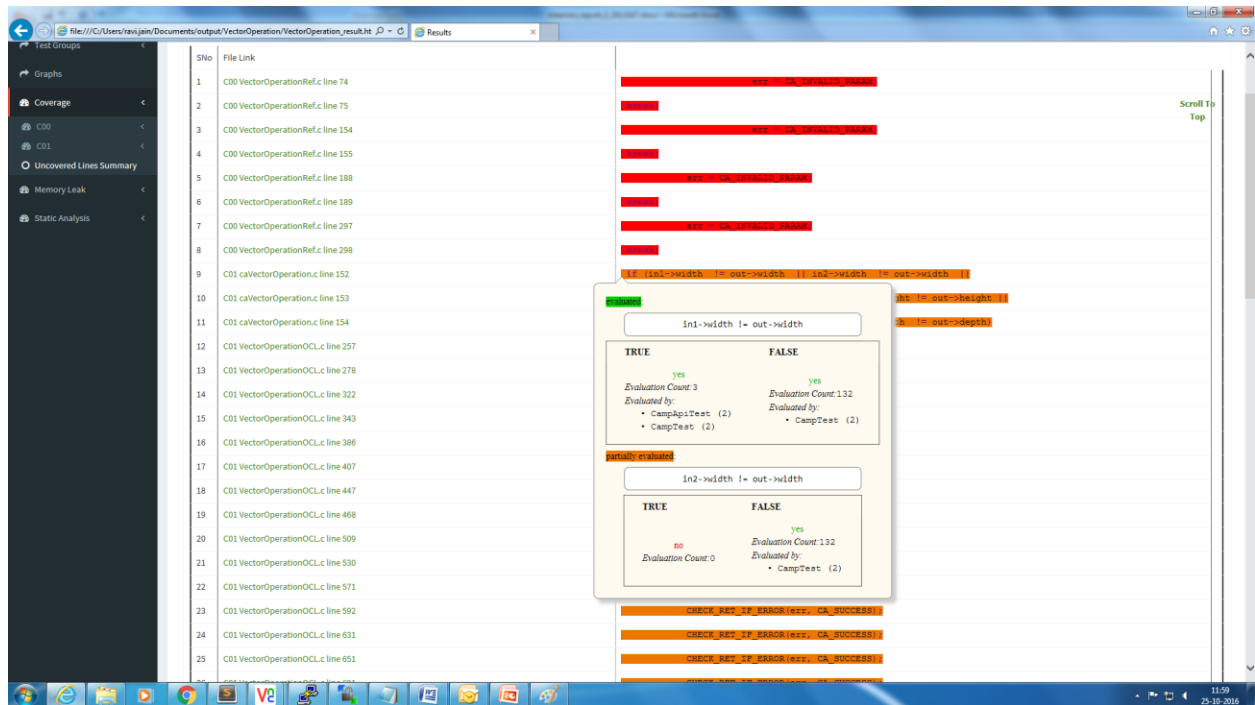
Command line arguments to run the code –

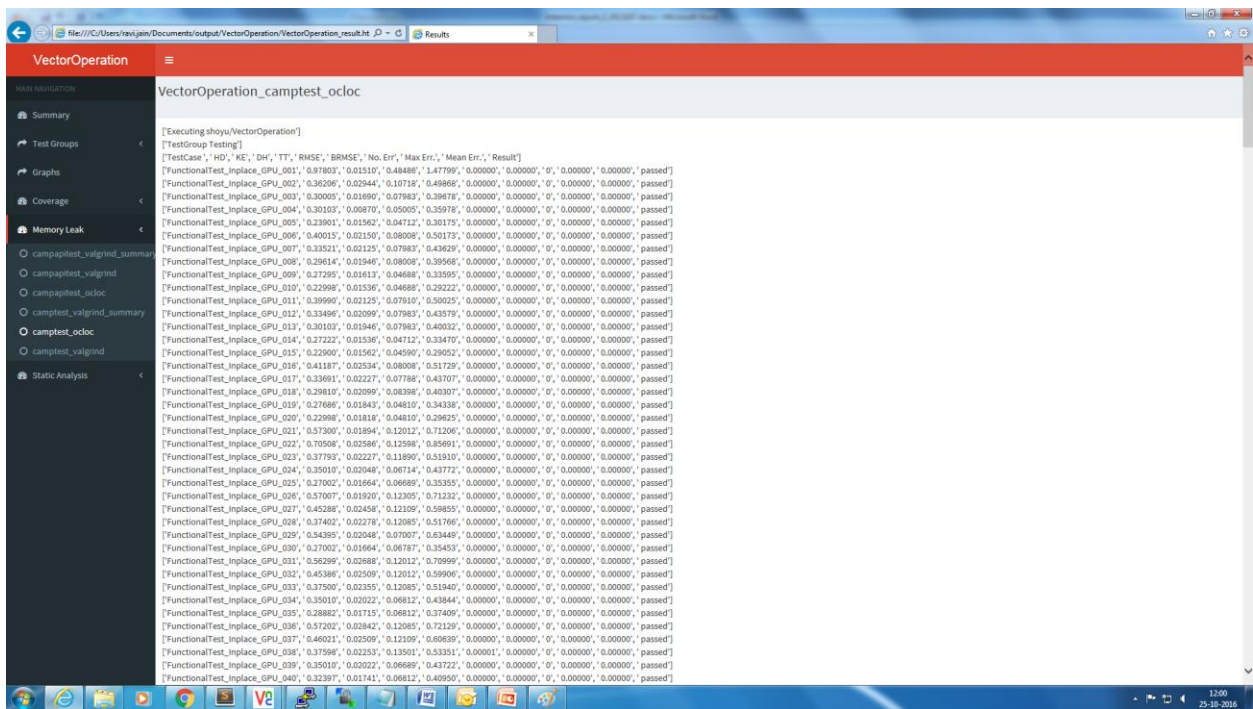
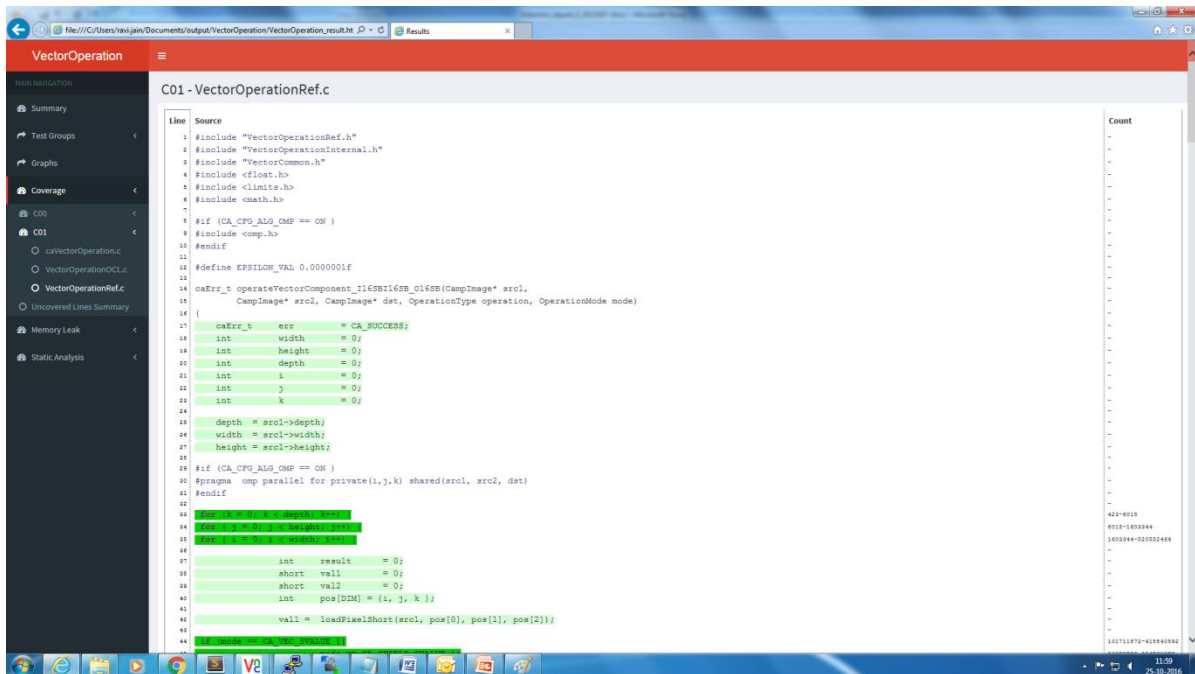
- General argument to display all content for an algorithm after folder structure is maintained -

`python generate_test_html.py -al algo_name`

- For example : python generate_test_html.py -al VectorNorm
- To display specific contents use -co, -tr, -ml and -st for coverage, test report, memory leak and status analysis files respectively.
- Example : python generate_test_html.py -al VectorNorm -tr -co

Screenshots of Output generated –





Due to company's terms and conditions, can't share all images.

Tools Used -

- Python 2.7
- Matplotlib

- Gedit, sublime
- JQuery, javascript
- Angularjs
- bootstrap, css, html
- beautiful soup

Conclusion –

- The readings and output were successfully obtained.
- Certain observations were made regarding these operators.
- The python programming code was able to generate the required files.