

# Mars Rover Supporting Document

## Design

The program runs from the command line with an argument passed for a location of a test file in the .txt format. This input gets parsed and loaded into Rover objects which then execute their commands and report their locations sequentially.

I began with a larger function to parse input data from .txt files and pass data to a Rover object which contained all the necessary commands to move and get info about the Rover, such as `execute_commands()`, `rotate()`, `move()` and `report()`.

Following test successes - for input checking and single/multiple rovers landing and moving - I moved onto cleaning up the data parsing into smaller functions, structuring the planet size data into a Planet object and the test data into a MissionData object to pave the way for future implementations.

## Assumptions

- The input is syntactically correct; that is, it follows the input syntax prescribed by the problem
- The input is semantically correct, that is, contains no illegal characters
- Commands don't result in out-of-bounds location on the Planet for the Rover
- Commands never result in a Rover impacting with the start/finish position of another

## Running the Code

This code requires python3 to be installed:

Upon opening the parent folder in a terminal the following command should be executed:

```
$ python3 tw_space_program.py <input.txt>
```

Where <input.txt> is a file location for a test file. The default test file supplied would be 'tests/test.txt' (with or without quotation marks)

If you wish to run the pytest file (test\_rover.py) you will need [pip](#) and [virtualenv](#) installed. (N.B virtualenv will be installed in the global python packages, pytest will only be installed locally in the virtualenv)

Then run the following commands:

```
$ virtualenv venv
$ source venv/bin/activate
$ pip install -r requirements.txt
$ pytest
```

Successful testing screenshot:

```
Running: py.test
===== test session starts =====
platform linux2 -- Python 2.7.10, pytest-3.1.1, py-1.4.33, pluggy-0.4.0
rootdir: /home/justin/repos/mars-rover, inifile:
collected 14 items

test_rover.py ss.....

===== 12 passed, 2 skipped in 0.09 seconds =====
```