

Project: Brain Rocket Code Coverage and Instructions



This project includes test cases to ensure the functionality of JavaScript files such as `coffeeMachine.js`, `fibonacci.js`, and `longestAscendingSubsequence.js`. It uses Jest as the testing framework, and a code coverage report is generated automatically to evaluate the quality of the tests.

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Prerequisites

- [Node.js](#) installed on your machine (version 14 or above is recommended).
- A terminal or command-line interface.

Installation

1. Clone the repository:

```
git clone https://github.com/faisalnaveedRNS/brainRocket
cd brainRocket
```

2. Install the required dependencies:

```
npm install
```

Running Tests

Run all test cases with the following command:

```
npm test
```

This command will execute all Jest test cases in the project.

Generating Code Coverage Report

To run the tests and generate a code coverage report, use:

```
npm test -- --coverage
```

Coverage Report Output

- 1. The coverage report will be saved in the `coverage` directory.
- 2. Open the HTML report by navigating to:

```
coverage/lcov-report/index.html
```

Use any browser to view the detailed report.

Coverage Report

Below is a snapshot of the already generated coverage report for this project:

Summary

Metric	Total	Covered	Coverage (%)
Statements	50	50	100%
Conditionals	26	26	100%
Methods	6	6	100%
Elements	82	82	100%
Lines of Code (LOC)	50	50	100%

File-wise Breakdown

- 1. `coffeeMachine.js`:

- **Statements:** 16 (100% covered)
- **Conditionals:** 8 (100% covered)
- **Methods:** 4 (100% covered)

2. fibonacci.js:

- **Statements:** 20 (100% covered)
- **Conditionals:** 10 (100% covered)
- **Methods:** 1 (100% covered)

3. longestAscendingSubsequence.js:

- **Statements:** 14 (100% covered)
- **Conditionals:** 8 (100% covered)
- **Methods:** 1 (100% covered)

Understanding Coverage Metrics

The coverage report includes the following metrics:

- **Statements:** The total number of executable statements in the code and how many of them are covered by tests.
- **Conditionals:** Branch coverage, representing the decision points (e.g., `if` conditions) and how many of them are tested.
- **Methods:** The total number of methods/functions and how many are tested.
- **Lines:** Total lines of code and the percentage covered by tests.

Notes

- If you encounter issues during installation or testing, ensure your Node.js version is up-to-date and all dependencies are installed correctly.

brainRocket
