**Read Me File**

**Project Description:**

This project compares the performance of different sorting techniques and helps the analysis of time complexity of the respective sorting algorithms. In this Project, we have particularly focused on plotting the average time taken by the following sorting techniques to a range of input array size from 0 to 50000:

* Insertion Sort
* Merge Sort
* Heap Sort
* In Place Quick Sort
* Quick Sort where Pivot is median of 3 elements.

**Instructions to run the Code**

1. **On Jupyter Notebook:**
   * Save the algoDSProject.ipynb file
   * Go to Command Prompt and enter the command: **jupyter notebook**

to invoke the kernel.

* + Navigate to the algoDSProject.ipynb and open it using Jupyter Notebook.
  + Run each tab in the file one after the other to see the output per algorithm.

1. **From Command Line**

* Save the AlgoDSProject.py file
* Go the command line and navigate to the .py file location
* Execute the algoDSProject.py file using the following command: python .py

**Note**: The input array has been randomly generated and passed to generate the plot graph that compares the performance of different sorting techniques for a wide range of input size between 0 and 50000.

**Note :** In order to view the results quickly use code\_cmd.py file since it takes an input array of small sizes.