Performance

The software is created mainly using python3 and makes use of its various powerful in built modules like pyvisa, matplotlib, Arduino, tkinter, csv, sqlite3, etc. These modules are well-optimized and provides for quick and accurate executions.

We provide for a user-friendly GUI which does not hinder the performance of the software, hence ensuring high performance.

Reliability

Availability

The software being created is readily accessible to all its potential seekers as it will be published on the internet. However, it requires the installation of certain drivers and python modules to be functional. These requirements have already been written about in Section 3 and should be revisited for further clarity (Akash’s Part).

Security

The data obtained from the results of the experiments is safely stored in the user’s computer. As long as the data on the user’s computer is secure, the software remains uncompromised.

Safety

The Keithley source-meter in use for the project in itself is a very safe device. However, it is not recommended to apply high voltages across the device under test as it might lead to unavoidable loss in data and failure of system hardware.

It is advisable to use DC current as Arduino works only at DC (Direct current). A voltage greater than 12 V can damage the device itself.

Maintainability

The software is created by collaborating using a free and open source distributed version control system, Git, and hence contributions of various other programmers and thereby remains updated.

Competent documentation should assist a new programmer to understand the functionality added by each code and the goals we aspire to achieve.

Portability