A1. Possible Scenario’s for testing the Jupiter application

* Validate login functionality
* Validate Empty cart functionality
* Validate removing individual item from cart
* Validate Checkout functionality
* Validate Navigation from Home page to Shop page and

A2.a Possible ways to reduce test execution time

* By excluding tests which are repetitive
* By using explicit time wait
* By refactoring web elements
* By using chrome driver( if possible : headless) as it is faster than other browser drivers
* By running tests more often as it helps to review results and act.
* By Identifying flaky tests
* By breaking big test in small tests

A2.b Possible ways testing framework can help to reduce execution time

* By parallelism – running tests in parallel
* By categorizing tests priority/type etc.
* By implementing adequate logging/ reporting technique
* A framework compatible with CI/CD pipeline can help us to perform continuous testing which eventually helps to reduce execution time.

A3. When to use BDD

* When working on a big project, BDD is useful as it helps to link specifications documentation with living documentation which consists test scenarios/ test cases or behavior of functionalities. The living documentation created with the help of BDD can be shared with external/internal stakeholders in the project as it is a more accurate representation of what the software/product actually does.
* It should be used to encourage collaboration between stakeholders.
* BDD should be used if you are planning to created automated tests for a feature before its completion.
* Test creation/maintenance is a bit easier in BDD as test steps in scenarios are like building blocks. These building blocks are reusable which means a new testcase can be created quickly by clubbing appropriate test steps in a correct order.
* Quite helpful for data driven testing

When not to use

* Not useful for small project.
* Not useful in an environment where there is not enough collaboration between testers, developers and business developers.
* Not useful for an existing project as It could be time consuming to create all those feature files/ scenarios for existing functionalities.
* Not enough resources to create/ maintain feature files/scenarios.