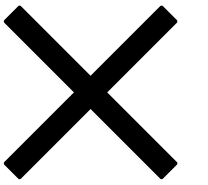# QA Automation and Manual Testing

Curriculum
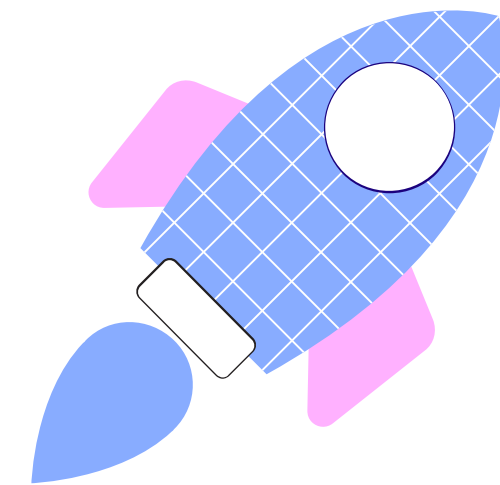
1. Software Testing Program Intro

- Program introduction.
- What is Software Testing?
- Agile methodology
- Testing throughout SDLC.
- Software Testing Life Cycle (STLC)
- Testing Types.
- Testing Methods.
- Testing Pyramid.
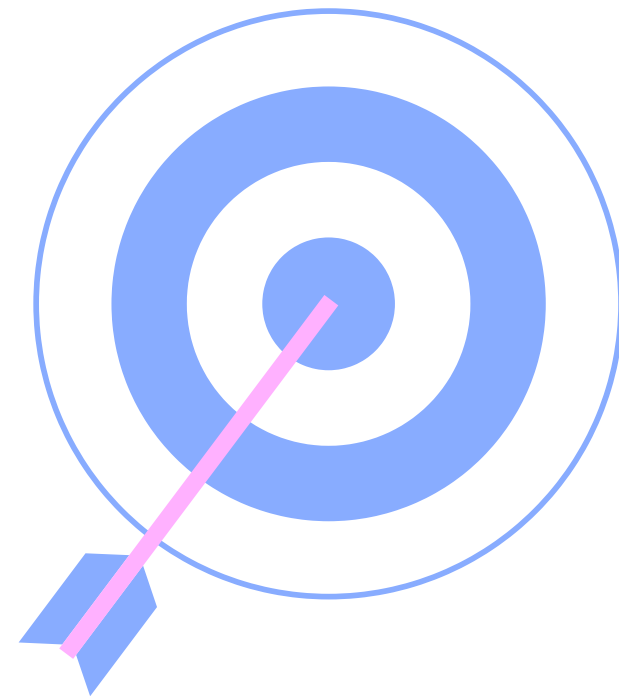- Test Plan
- Test Strategy

2. Agile Methodology

- What is Agile methodology
- Agile roles
- Agile ceremonies
- Agile artifacts
- Scrum framework

Curriculum
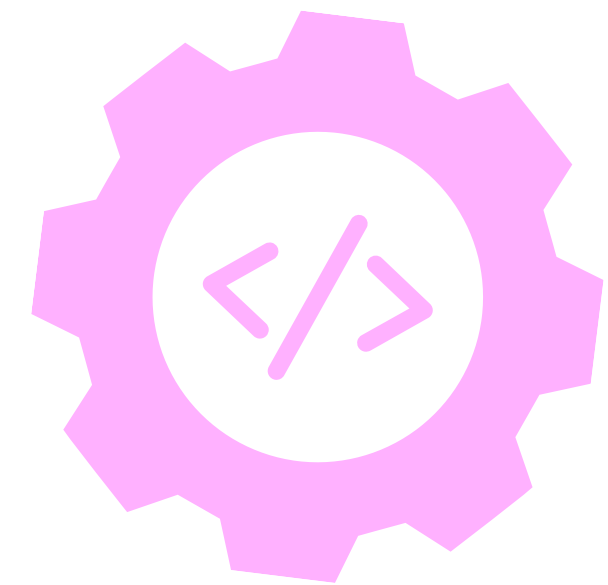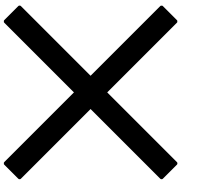
3. SDLC and testing throughout SDLC

- SDLC intro
- SDLC phases
- Testing in SDLC

4. Testing Types and methods

- Black Box testing vs White Box testing vs Grey Box testing
- Functional vs Non-Functional Testing
- Unit testing
- Integration testing
- End-to-End Testing
- User Acceptance Testing(UAT)
- Smoke Testing vs Regression Testing
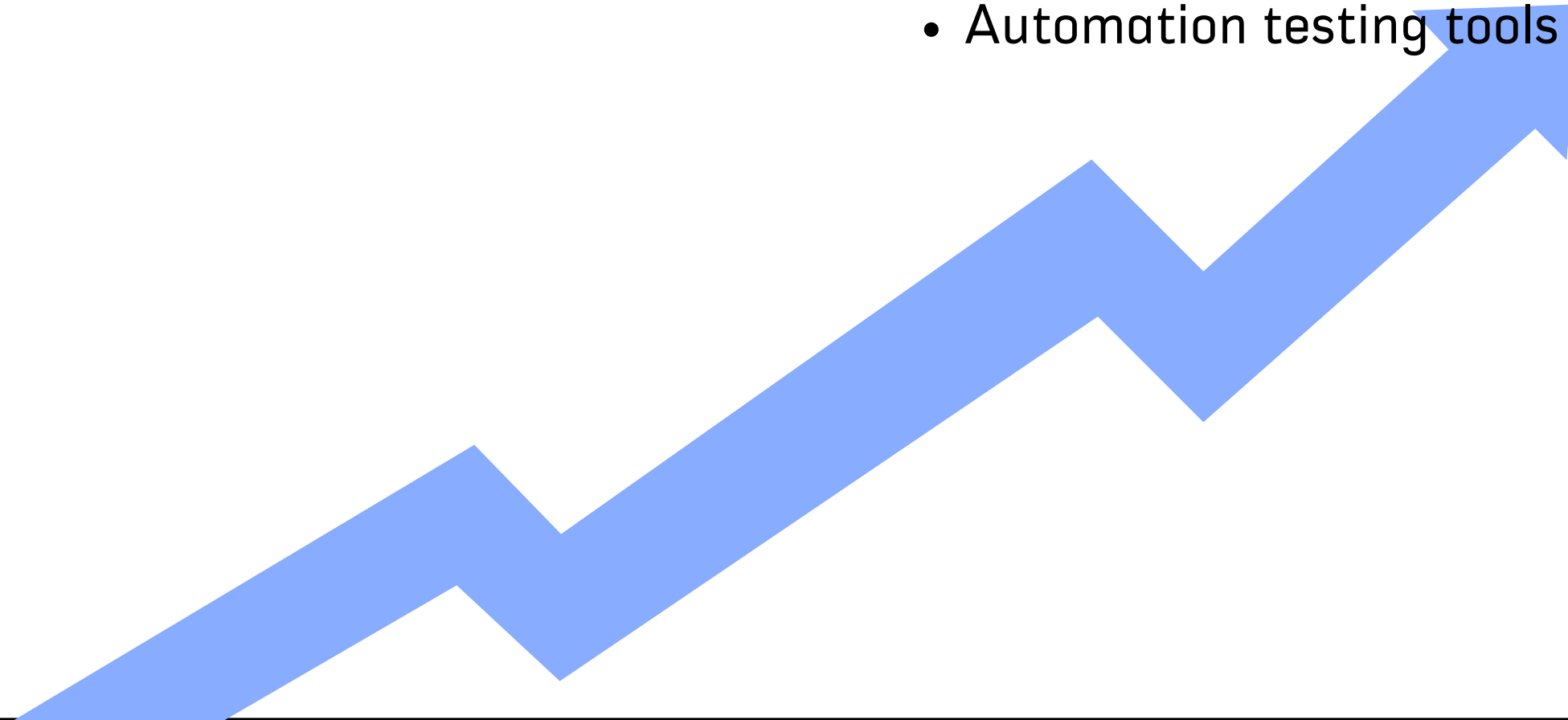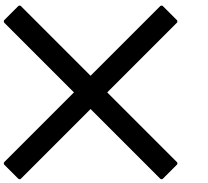- Test Design Techniques

Curriculum
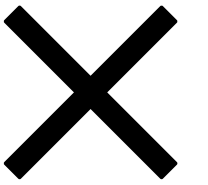
5. Software Testing Life Cycle (STLC)

- STLC Intro
- STLC Phases
- Bugs and Bug Tracking(With Jira)
- Test Plan
- Test Strategy
- Test Scenario
- Test Case

6. Automation Testing vs Manual Testing

- What is Manual testing?
- What is Automation testing?
- How to choose between manual and automation?
- Automation testing tools

Curriculum

7. JAVA Programming Language Basics + GITHUB Collaboration

- GitHub collaboration explained!
- Variables
- String and String Methods
- Conditional Statements
- Loops
- Array and ArrayList
- Methods
- Constructor
- OOP concepts (Encapsulation, Abstraction, Inheritance, Polymorphism)
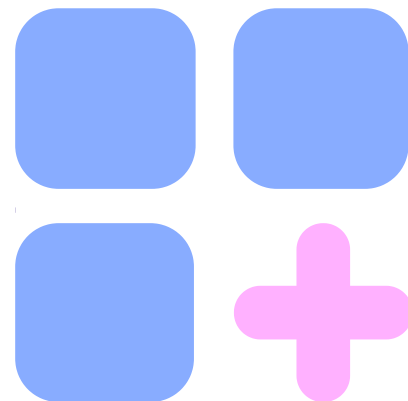
8. Automation Testing using Selenium WebDriver with Java

- Selenium Intro and project creation
- Selenium locators, FindElement, FindElements, GetText methods
- TestNG and JUnit
- Alerts, IFrames and Windows
- Dropdowns and Actions Class
- Framework Utilities
- Driver Utility
- File upload and File download using Selenium
- Page Object Model(POM)
- Synchronization Issues, WebDriver Waits
- Cucumber Project creation
- Background, Hooks, Parametrization
- Scenario Outline
- Cucumber Rerun option
- Cucumber report generation

Curriculum
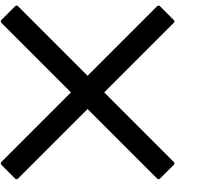
9. API Testing using POSTMAN and Java RestAssured library

- API Testing Intro
- API GET Request
- API Headers
- Query and Path Parameters
- Path and JsonPath methods
- Serialization and De-Serialization
- Hamcrest Matchers
- API POST and Delete requests
- API PUT and Patch requests
- API Authentication

10. FINAL UI or API Project

- Project will include pretty much everything that was covered in the Automation Testing Topic.