

Ideal Basic QA Profile

Fundamentals of Testing

Topics

- Automata Theory , Regular Expressions , Formal Grammar
- Combinatorics and it's Applications
- Graph theory and Control Flow
- Predicates and Implications in Testing
- Higher Order Functions - application in Testing
- Probability theory and Theory of Errors , Independence of Events
- Equivalence Class Partitions
- Boundary Value Techniques
- Data Generation Techniques

Exit Criterion

- Modelling testing problems with formalism
- Reducing exponential input sizes into manageable pieces by pairwise combinatorial technique
- Ability to do quick calculation of how much data for what amount of coverage
- Prioritisation of Work Items based on system criticality

Fundamentals of Programming

Topics

- Data Structures
- Classical Algorithms
- Randomised Algorithms
- Procedural and Declarative paradigm
- Code Coverage

Exit Criterion

- Writing test frameworks to have test coverage (branch) of 80%
- Able to write test monkeys
- Minimal cost declarative test cases

Technology

Topics

- Proficient in any of the dynamic type languages like :
 - Python
 - Ruby
 - JavaScript
- Proficient in any of the "strongly" typed VM languages
 - Java
 - Scala
 - Kotlin
 - C#
- Understanding JVM / CLR behaviour - theory and practice
- SQL and related data processing techniques - practice
- Understanding HTTP and Web - usage
- WebServices - REST and SOAP - usage
- Automation
 - Selenium (Web)
 - UI Automation (MSFT)
 - Office Automation (MS Office)

Exit Criterion

- Writing test cases using WhiteBox/Graybox techniques
- Doing code review and finding issues
- Writing efficient (both time taken to write and time taken to execute) automated test cases
- Able to do performance benchmarking on response times of web systems