

PROGRAMMING LANGUAGE FUNDAMENTALS

80 hours

Basics · Hardware and Software Architecture · Computer and Networking Basics · Software Infrastructure and Applications · Numbering Systems Notation · Open Sources and Open Standards · Development Platforms Integrated Development Environment · IDE Eclipse Basics · Compiler and Builder · Programming Language Basics · Data Types · Operators · Statements · Functions · Symbol Presentation and Coding · Array · Basic Programming Patterns · C Practicing · Sequential and Binary Search · Sorting · Reversing · Merging · Object Oriented Programming · OOP Principles (Encapsulation, Inheritance) · Polymorphism · Classes and Objects · JAVA Basics · OOP Implementation in JAVA · JAVA Practicing

SQL PROGRAMMING FUNDAMENTALS

32 hours

Database and SQL Basics · Relational Databases · Tables · Logical Structure · Keys · Indexes · SQL Development Platform · Table Creation · Create Table Statement · Data Types · Table Update · Insert Statement · Update Statement · Combination of Select and Update Statements · Selection from Table · Simple Select Statement · Using WHERE clause · Selection Conditions · Ordering · Grouping vs Ordering · Aggregate Functions · Tables Joining · Examples of Complex Select Statements

CORE JAVA FUNDAMENTALS

100 hours

Introduction in Java and JVM · Data Types (Primitives and Classes) · Operators and Methods · Basic Algorithms · Arrays · Java Inheritance · Interfaces · Java Collections Framework (JCF) · Iterator Design Pattern · Exceptions · Input-Output Streams · JUnit — Java Automation Testing · Wrapper Classes · String / String Builder

SOFTWARE TESTING

80 hours

Why is testing necessary · Testing Objectives, Roles of Testing · Model QA-QC-Testing, V&V Fundamental test process, Test Plan · The psychology of testing · Software development models (V-Model, RAD, Agile) · Test levels · Test types · Identifying test conditions and designing test cases · Choosing a test technique · Test organization · Test plans, estimates, and strategies · Test progress monitoring and control · Configuration management · Risk and testing · Incident management · Types of test tool · Effective use of tools: Potential benefits and risks · Introducing a tool into an organization · Test and Incident management tools (Bugzilla/ Testopia or Jira) · Linux basic principles · Load testing

SOFTWARE TESTING AUTOMATION

100 hours

Basic autotests concept, HTML, DOM · Setting up Browser, Project, IDE · Git/GitHub · Locating page elements using CSS and Xpath · Selenium WebDriver commands · Using test data from file (DataProvider) · Infrastructure for building and running tests — Maven or Gradle · Testing framework TestNG · Assertions and Expectations · Continuous integration server — Jenkins · Running tests by scheduler · Logger, Listener, screenshotting · Mobile automation testing · Appium

TOTAL THEORETICAL/PRACTICAL HOURS

392 hours

PRACTICAL WORK ON REAL PROJECTS

80 hours

TOTAL HOURS

472 hours**

* — Tel-Ran educational center can make changes and adjustments to this program due to the relevance of the studied technologies without losing the total number of study hours without notifying students. The online QA English course is free and optional.

** — doesn't include FREE webinars that are held regularly on topics covered in class and on homework analysis