

Talent Boost 2020

Course Program

Topic	Date	Program for the day	Lead/Mentors
Introductory session	Mar 04	Console overview Cmds Git Git tasks Gitlab	Mario Stoilov
	Mar 05	Setup dev environment - IDE, Java The Basics: Version Control System, Code Review Tool, Bug Tracking System, IDE, Continuous Integration Basic IO - read and write to console	
Java Basics of OOP	Mar 06	Java language basics, OOP, compiler from command line, jars, main, Test runners, basic tips / operators	Martin Marinov
	Mar 09	Classes & objects, memory management (stack, heap), gc, interfaces	
	Mar 10	OOP principles, abstract classes, enums, immutable classes	
	Mar 11	Arrays, generics, Collections (List, Map, Set, Iterator), lambda	
	Mar 12	Exceptions, clean code (examples with bad code) CHECKPOINT EXAM	
Data Structures and Algorithms	Mar 13	Introduction, algorithm complexity	Dimitar Chaushev
	Mar 16	List, Stack, Queue	
	Mar 17	Sorting algorithms	
	Mar 18	Hash tables	
	Mar 19	Trees	
	Mar 20	Graphs	
	Mar 23	Bonus topic + CHECKPOINT EXAM	

OOP Recap (1d + task) Refactoring (2d) Writing testable code (+TDD) (3d)	Mar 24	OOP Recap Testing Process	Peter Mitrov
	Mar 25	Refactoring	
	Mar 26	Design Principles	
	Mar 27	Writing testable code (+ TDD)	
	Mar 30	Writing testable code (+ TDD)	
	Mar 31	Writing testable code (+ TDD) CHECKPOINT EXAM	
Design Patterns	Apr 1	Strategy Builder Singleton Factory Template Composition Decorator Observer	Alexander Savov
Software Architecture 101	Apr 2	Layered architecture Hexagonal and Clean architecture, Vertical demarcation lines(DDD & Subdomains), Horizontal demarcation lines	Konstantin Spirov
Requirements Analysis	Apr 3		Mario Stoilov
Input / Output (IO and Networking)	Apr 6	Extend the command interpreter (CI) with READ/WRITE in/to files and encoding	Ivan Kolev
	Apr 7	Extend the command interpreter (CI) with READ/WRITE in/to files and encoding	
	Apr 8	Expose remote access to the CI	
	Apr 9	Write an instance messaging chat	
Software Architecture 102	Apr 10	Distributed architecture (Starbucks Does Not Use Two-Phase Commit, Sagas)	Konstantin Spirov
Dev Ops	Apr 13	Setup Gitlab pipelines & needed infrastructure	Kristiyan Georgiev
	Apr 14		
Software Development Methodologies, Project Roles	Apr 15	Project roles, SDL theory, agile methodologies	Kaloyan Dimitrov Lora Borisova
Concurrency	Apt 16	Concurrent vs parallel; Exercises; Atomicity, Visibility, Ordering; Exercises;	
Happy Easter			
Concurrency	Apr 21	Classical Problems; Exercises; Collections; Exercises;	Tihomir Mateev
	Apr 22	Reactive programming; Exercises; Exercises; Main task;	
	Apr 23	Actor model; Exercises; Exercises; Main task; CHECKPOINT EXAM	
Software Security (Crypto)	Apr 24		Aleksandar Zlatanchev

Databases	Apr 27	Introduction to databases; Relational model, Data types; Retrieving data using SQL SELECT statements;	Stanislav Blagoev
	Apr 28	Data normalization; SQL Data definition language, creating objects; Transaction control and isolation;	
	Apr 29	Practice: Exploring database schema and model through UI; Writing SQL Select statements – simple and complex through UI client; Connecting to a database through JDBC, managing the connections/session, querying data from within java code.	
Spring (DI (XML,JavaConfig), AOP,JDBC,JPA,RES T)	Apr 30	Dependency Injection (Inversion of Control)	Vasil Chomakov
	May 4	Aspect Oriented Programming	
	May 5	Integration testing	
	May 7	JDBC	
	May 8	Transactions Spring Data Spring Boot Spring Web	
Front End Development	May 11	HTML, CSS	Simona Mitrenova Sabo Rusev
	May 12	JS	
	May 13	JS	
	May 14	Angular & TS	
	May 15	Angular & TS	
	May 18		
	May 19		
Product Design	May 20	Problem solving & cross-functional problems (examples) What is Product Design UX pillars (usability, accessibility, information architecture, etc.) Design thinking workshop exercise ? UX 2d: hands on work Work with mentors to analyze and improve UI of Final Task or something else they have created (preferably).	Martin Krivobarski Mitko Yugovski
Programming competition	May 21		Konstantin Spirov
Soft skills	May 22	Preparation for interview How to make good presentations What it takes to be a successful engineer	Ivelin Nikolaev Org Team
24th May Literacy day			
Final task	May 26 – Jun 2		Georgi Stoimenov
		Note: The program might be subject of small adjustments during the course.	