

Curricula cursului Introducere în programare Java

| | Topic |
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| Lab 1 | <ul style="list-style-type: none"> • Generalities Software Engineering • Introduction to Hardware, Software, Networking, Internet and Cloud • Operating Systems, A crash course on Linux, an operating system you need to know • A crash course on bash scripting, Let's build useful console applications using Linux tools and scripts • Prepare initial test |
| Lab 2 | <ul style="list-style-type: none"> • Operating Systems • A crash course on Linux, an operating system you need to know • A crash course on bash scripting |
| Lab 3 | <ul style="list-style-type: none"> • Working in an Integrated Development Environment (IDE) • Programming styles like imperative, object oriented, declarative and functional • An introduction to the major programming languages you see around • Algorithms, the heart of programming • Introduction to Java |
| Lab 4 | <ul style="list-style-type: none"> • Programming Fundamentals (presented in Java) • Basic concepts, understanding syntax |
| Lab 5 | <ul style="list-style-type: none"> • Java basics • Implementing simple algorithms in Java |
| Lab 6 | <ul style="list-style-type: none"> • Simple data structures • Arrays • Implementing more complex algorithms in Java |
| Lab 7 | <ul style="list-style-type: none"> • Methods in Java • Create an adventure game |
| Lab 8 | <ul style="list-style-type: none"> • Java OOP basics (methods, classes, objects, constructors) • Write a simple zoo application |
| Lab 9 | <ul style="list-style-type: none"> • Java principles of OOP (Inheritance, Abstract Classes, Interfaces, Polymorphism, Overriding, Overloading) • Write a simple bank application |
| Lab 10 | <ul style="list-style-type: none"> • Java principles of OOP (Abstract Classes, Interfaces) • Create a simple HR application |
| Lab 11 | <ul style="list-style-type: none"> • Error handling, Exceptions |

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| | <ul style="list-style-type: none"> • Source Control in easy steps (Git, GitHub) |
| Lab 12 | <ul style="list-style-type: none"> • Java Collections • Java Certification Quiz |
| Lab 13 | <ul style="list-style-type: none"> • Database introduction |
| Lab 14 | <ul style="list-style-type: none"> • Databases • Basics of relational databases (database objects, structured query language, relations) |
| Lab 15 | <ul style="list-style-type: none"> • Persisting Java objects in a database • Java Database Connectivity and Java Persistence (JDBC) • Create a Java application with database access |
| Lab 16 | <ul style="list-style-type: none"> • Web User interfaces (HTML, CSS, JavaScript) |
| Lab 17 | <ul style="list-style-type: none"> • Web User interfaces • Enhancing any web application by adding Responsive Design |
| Lab 18 | <ul style="list-style-type: none"> • Make a complete web application with client-side, server-side and database using HTML, CSS, JS, Java and MySQL • Server side web programming in Java |
| Lab 19 | <ul style="list-style-type: none"> • Desktop User interfaces (Java Desktop Applications using Java FX) |
| Lab 20 | <ul style="list-style-type: none"> • Create a complete Desktop Application (GUI, application and database) using JavaFX, JDBC and MySQL • Create a game with GUI in Java |
| Lab 21 | <ul style="list-style-type: none"> • Recap • Final quiz |
| Lab 22 | <ul style="list-style-type: none"> • Project Management • Agile principles and practices, Scrum, • Interviewing for a job • Project presentation |