uCertify

Course Outline

Java for Beginners

13 May 2024

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Lab Tasks

Here's what you get

1. Course Objective

Java for Beginners opens the door to the world of programming. This course provides a solid foundation for Java, with a focus on simplicity and practicality. It offers interactive lessons, quizzes, and hands-on labs, making the learning process engaging and effective. You'll grasp essential Java concepts through clear explanations and real-world code examples. By the end of the course, you'll be well-prepared to dive into the vast world of Java programming.

2. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

3. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

4. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.

5. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

6. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

7. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

8. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

9. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution

2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform
    2. Best Instructional Solution in Other Curriculum Areas
    3. Best Learning Relationship Management Solution

- **2019**
    1. Best Virtual Learning Solution
    2. Best Content Authoring Development or Curation Solution
    3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

10. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- About This Course
- Foolish Assumptions
- Icons Used in This Course
- Where to Go from Here

Chapter 2: All about Java

- What You Can Do with Java
- Why You Should Use Java

- Gaining Perspective: Where Java Fits In
- Object-Oriented Programming (OOP)
- What’s Next?

Chapter 3: All about Software

- Get Ready for Java
- The Inside Scoop
- Developing Software
- Spoiler Alert!

Chapter 4: Using the Basic Building Blocks

- Speaking the Java Language
- Checking Out Java Code for the First Time
- Understanding a Simple Java Program
- And Now, a Few Comments

Chapter 5: Making the Most of Variables and Their Values

- Varying a Variable
- Experimenting with JShell

- What Happened to All the Cool Visual Effects?
- The Atoms: Java's Primitive Types
- The Molecules and Compounds: Reference Types
- An Import Declaration
- Creating New Values by Applying Operators

Chapter 6: Controlling Program Flow with Decision-Making Statements

- Making Decisions (Java if Statements)
- Using Blocks in JShell
- Forming Conditions with Comparisons and Logical Operators
- The Nesting Habits of if Statements
- Choosing among Many Alternatives

Chapter 7: Controlling Program Flow with Loops

- Repeating Instructions Over and Over Again (Java while Statements)
- Count On Me
- You Can Always Get What You Want

Chapter 8: The Inside scOOP

- Defining a Class (What It Means to Be an Account)
- Defining a Method within a Class (Displaying an Account)
- Sending Values to and from Methods (Calculating Interest)
- Giving Your Numbers a Makeover
- Hide-and-Seek
- Barry's Own GUI Class

Chapter 9: Saving Time and Money: Reusing Existing Code

- What It Means to Be an Employee
- Working with Disk Files (a Brief Detour)
- Defining Subclasses (What It Means to Be a Full-Time or Part-Time Employee)
- Using Subclasses
- Changing the Payments for Only Some of the Employees

Chapter 10: Constructing New Objects

- Defining Constructors (What It Means to Be a Temperature)
- Doing Something about the Weather
- A Constructor That Does More

Chapter 11: Putting Variables and Methods Where They Belong

- Defining a Class (What It Means to Be a Baseball Player)
- Making Static (Finding the Team Average)
- Experiments with Variables
- Passing Parameters

Chapter 12: Using Arrays to Juggle Values

- Getting Your Ducks All in a Row
- Arrays of Objects
- How to Argue with Your Code

Chapter 13: Using Collections and Streams (When Arrays Aren't Good Enough)

- Arrays Have Limitations
- Collection Classes to the Rescue
- Functional Programming

Chapter 14: Looking Good When Things Take Unexpected Turns

- Garbage In
- The Buck Stops Here, Except When It Doesn't

- Try, Try Again!

Chapter 15: Sharing Names among the Parts of a Java Program

- Access Modifiers
- Classes and Their Members
- Public and Private Access for Members
- Default Access for Members
- Protected Access for Members
- Access Modifiers for Java Classes
- From Classes Come Modules

Chapter 16: Fancy Reference Types

- Java's Types
- The Java Interface
- Abstract Classes
- Relax! You're Not Seeing Double!

Chapter 17: Java's Juggling Act

- Juggling Two or More Calls

- Some Events Aren't Button Clicks
- The Inner Sanctum

Chapter 18: Using Java Database Connectivity

- Creating a Database and a Table
- Putting Data in the Table
- Retrieving Data
- Destroying Data
- One Step Beyond

Chapter 19: Ten Packs of Java Websites

- This Course’s Website
- For Business Issues Related to This Course
- Download the Java Development Kit
- Your Grandparents' Java Download Site
- The Horse’s Mouth
- Join Java User Groups
- Find the Latest News about Java

- Find News, Reviews, and Sample Code
- Got a Technical Question about Anything?
- Become Involved in the Future of Java

Chapter 20: Ten Bits of Advice for New Software Developers

- How Long Does It Take to Learn Java?
- Which of Your Books Should I Read?
- Are Books Other than Yours Good for Learning Java and Android Development?
- Which Computer Programming Language(s) Should I Learn?
- Which Skills Other than Computer Coding Should I Learn?
- How Should I Continue My Learning as a Software Developer?
- How Else Should I Continue My Learning as a Developer?
- How Can I Land a Job Developing Software?
- I Still Don’t Know What to Do with My Life
- If I Have Other Questions, How Can I Contact You?

11. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations
- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

All about Java

- Understanding Java Instructions

Using the Basic Building Blocks

- Using Method Declaration
- Creating the main() Method
- Using Comments

Making the Most of Variables and Their Values

- Using the int Type
- Using Variables
- Using Java Primitives
- Using Reference Types
- Using the Assignment Operators
- Using the Increment Operator

Controlling Program Flow with Decision-Making Statements

- Using the if Statement
- Using the Logical OR Operator
- Using the Logical AND Operator

- Using Conditions
- Using the if-else Statement
- Using Nested if Statements
- Using the switch Statement

Controlling Program Flow with Loops

- Using the while Statement
- Using the for Statement
- Computing the Factorial of a Number
- Using Multiple Loops
- Using the continue Statement
- Using the break Statement
- Using the do/while Statement

The Inside scOOP

- Creating an Object
- Creating a Method
- Passing Parameters to a Method

Saving Time and Money: Reusing Existing Code

- Grouping Separators
- Reading the Content of a File

Constructing New Objects

- Creating a Constructor
- Displaying a Frame

Putting Variables and Methods Where They Belong

- Passing an Object to a Method

Using Arrays to Juggle Values

- Declaring an Array

- Writing Values in a File
- Using the conditional operator

Using Collections and Streams (When Arrays Aren't Good Enough)

- Using String Methods
- Using a Lambda Expression

Looking Good When Things Take Unexpected Turns

- Using the try/catch Block
- Using the throws Keyword

Sharing Names among the Parts of a Java Program

- Using the Access Modifier

Fancy Reference Types

- Creating an Interface
- Using the Abstract Method

Java's Juggling Act

- Creating a Textbox and a Progress Bar Using Event Handling

Using Java Database Connectivity

- Working with JDBC Statements
- Executing a SQL Query
- Displaying Records

Here's what you get

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LIVE LABS	VIDEO TUTORIALS	MINUTES

GET IN TOUCH:

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