

Advanced Java Programming

Unit 1: Inheritance --- Part 1

Introduction to Inheritance
Inheritance & Class Visibility
Base Class Constructors
Method Overriding & Preventing Inheritance
Runtime Polymorphism

Unit 2: Inheritance --- Part 2

Abstract Methods & Abstract Classes
The Object Superclass
Casting Objects
Inheritance Design Guidelines

Unit 3: Interfaces

Introduction to Interfaces
Defining & Using Interfaces
Interfaces & Polymorphism
Using Constants in Interfaces

Unit 4: Exception Handling

Introduction to Exceptions
The Java Exception Hierarchy
Handling Exceptions
Defining & Throwing Exceptions

Unit 5: File Input & Output --- Part 1

Working With Files & Directories
Java Streams
Writing Text Files
Reading Text Files

Unit 6: File Input & Output --- Part 2

Writing Binary Files
Reading Binary Files
Writing Random Access Files
Reading Random Access Files

Unit 7: Object Serialization

Writing Objects to Files
Reading Objects From Files
Some Serialization Issues

Unit 8: Java Collections & Generics

Collections & Generics
Working With The ArrayList Class
Working With The LinkedList Class
Working With Map Classes

Unit 9: Java Threads

Java Threads
Creating Threads
Manipulating Threads
Synchronizing Threads

Unit 10: Working With GUI Components - 1

Introduction to Java FX
Adding Labels & Text Fields
Adding Buttons
Working With Layout Manager

Unit 11: Working With GUI Components - 2

Handling Java Events
Working With Radio Buttons
Working With Check Boxes
Working With the ListView Control
Working With Combo Boxes

Final Project

Final Exam

Grade Summary

Final Exam: 89%
Overall Average: 98%
Letter Grade: A+

Comments

Congratulations on successfully finishing Advanced Java Programming. Your overall score on this course is outstanding 98% and your letter grade is A+.

You did a great job on the programming assignments, the quizzes, the final project and the final exam.

Your impeccable average quizzes score of 100% shows that you have understood the principles of object oriented programming and some advanced Java concepts introduced in this course very well.

You achieved a flawless score of 100% on all programming assignments (except the first one where it was 99%). Your programs worked always great on the first try. You showed the ability to find solutions to your problems independently, mentioning among others the correct calculation of the GPA that is a US specific concept or the multi-selection in the ListView that was not fully explained in the video lecture. My feedback comments contained mostly just suggestions for a cleaner, more readable and more efficient code.

You were not afraid of experimenting and trying new things which led to an elegant solution in your final project using FXML that was even beyond the goals of this course.

All these demonstrate that you have mastered the advanced programming skills in Java.

You put the self-paced nature of the course to a good use. You were able to manage yourself without my interventions and to submit the final project more than a week before the deadline.

It was a real pleasure for me to guide you through this course and I wish you a lot of success and happiness in the pursuit of your future professional goals. I hope you will keep your curiosity, playfulness and professionalism.

Jana Vitvarova
Instructor