

# Course Introduction



# SoftUni



<https://softuni.bg>

[sli.do](https://sli.do)

**#prgm-for-qa**

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# SoftUni Diamond Partners





# **Course Objectives and Scope**

# Course Goals



- Develop a strong foundation in **programming concepts** and **techniques**, enabling students to confidently write code and solve problems
- Understand the significance of **unit testing** and how to use it effectively to **validate code functionality** and ensure **software reliability**
- Cultivate **critical thinking** and **problem-solving skills** through various coding challenges, exercises and projects

# Course Scope



- Fundamental **concepts of programming**, including data types, variables, expressions, and simple calculations
- Using **conditional statements**, such as if-else and switch-case
- Using while and for **loops**, including nested loops, for more complex problem-solving
- Working with **arrays** and **lists** for efficient data handling and processing

# Course Scope

- Understanding the concept of **methods** and how to write and call them
- Essential knowledge of **unit testing** and using **NUnit** to verify the correctness of the code







# **The Team**

**Your Trainers and Mentors**

- Top Student @ SoftUni
- Graduated @ UNWE
- Master's Degree in Business Informatics
- Works as Software Engineer for a Norwegian company
- Loves to travel and meet with friends



- Top Student @ **SoftUni**
- Training Delivery @ **SoftUni**
- Interested in coding with **C#**, **.NET**, and recently with **GO**





# Course Organization

# Programming Fundamentals and Unit Testing

## Course Timeline

13-May-24

7-Jul-24

19-Aug-24

**Programming Fundamentals and Unit Testing**

**8 weeks \* 3 times / week  
12 credits**

**Start: 13 May 2024**

**Practical Exam Regular: 7 July 2024**

**Theoretical Exam Regular: 7 July 2024**

**Practical Exam Retake: 19 August 2024**

**Theoretical Exam Retake: 19 August 2024**







**Exam**



# Practical Exam Overview

- Practical exam tests the following skills:
  - **Loops**: Students will be tested on their ability to utilize loops, to perform repetitive tasks and handle iterations in their programs
  - **Lists / Arrays**: The exam will assess students' proficiency in working with lists and arrays, to manage data and solve list-related problems
  - **Unit Testing Methods**: Students will demonstrate their understanding of unit testing by writing test cases to verify the correctness of individual methods
  - **Unit Testing Lists and Arrays**: The exam will include testing scenarios where students are required to verify the functionality of methods involving lists and arrays to ensure overall code reliability



# Theoretical Exam

- You will have **30 minutes** once you enter
  - **10** questions
  - Multiple-choice with **1** correct answer
  - English
- Automated quiz system
- Available during the **practical** exam and **30 minutes after it**
  - You can submit your answers just **one time**
  - Advice: Start it when you **finish** the **practical exam**



- Your **homework** is mainly work in class
  - **Lesson days** → slides + live demos + exercises
  - **Exercise days** → only exercises
- How to submit your homework?
  - Submit it in the **judge system**
- Do your homework when it's due
  - **Assignments pile up quickly**



- The course assignments require to **search in Internet**
- This is an important part of the learning process
- Some exercises intentionally have no hints
- Learn to find solutions!
- Quality Assurance includes **everyday searching and learning**
- No excuses, just **learn to study!**
- QAs learn new technologies, tools, languages every day!



# Course Web Site, Forum and FB Group

- Official web site:

<https://softuni.bg/trainings/4546/programming-fundamentals-and-unit-testing-may-2024>

- Official discussion forum:

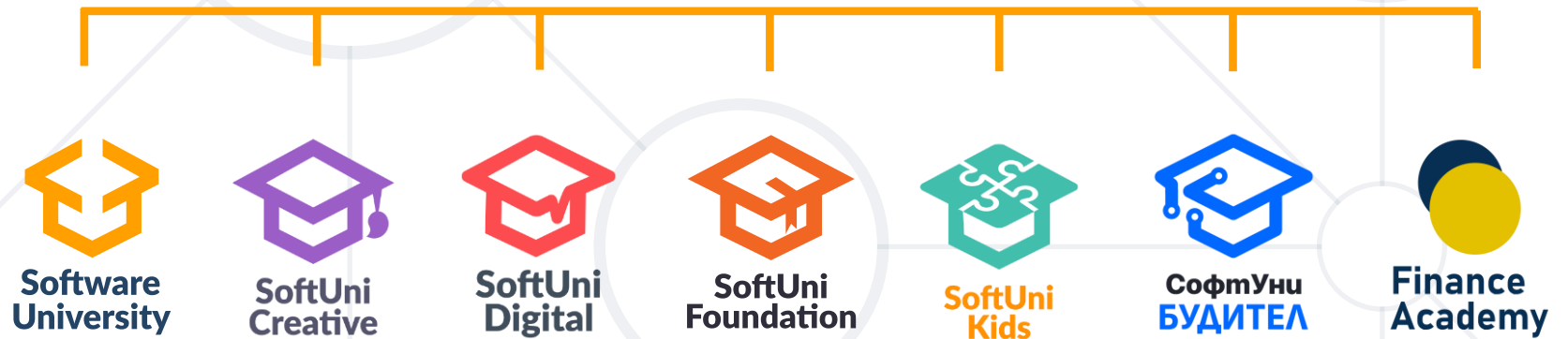
<https://softuni.bg/forum/>

- Official Facebook group:

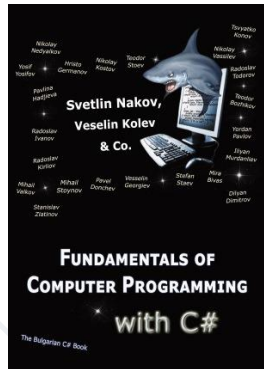
<https://www.facebook.com/groups/ProgrammingforQAMay2024>



# Questions?



# The Free C# Fundamentals Textbook



- "Fundamentals of Computer Programming with C#", by Svetlin Nakov & Co., 2018, ISBN 9786190007784
- English and Bulgarian versions (as PDF, ePub, ...)
- Freely downloadable from:

[www.introprogramming.info](http://www.introprogramming.info)

- Software University – High-Quality Education, Profession and Job for Software Developers
  - [softuni.bg](http://softuni.bg), [about.softuni.bg](http://about.softuni.bg)
- Software University Foundation
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