

C Programming

Course Introduction, Program,
Trainers, Evaluation, Exams

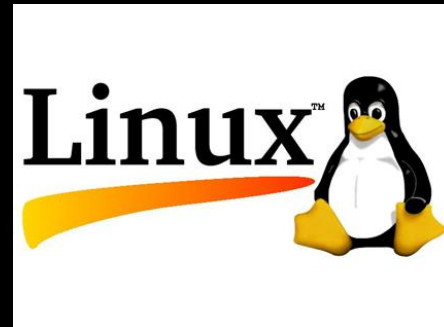


SoftUni Team
Technical Trainers
Software University
<http://softuni.bg>



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Course Sponsor



www.mm-sol.com

SoftUni Diamond Partners



SoftUni: Levels, Modules, Schedule

Programming Basics

6 credits

2 months

Programming Fundamentals

36 credits

6 months

Advanced C#

Object-Oriented
Programming

High-Quality
Code

Java
Fundamentals

Teamwork and
Personal Skills

Web Front-End 36 credits

HTML + CSS
+ WordPress

JavaScript
Basics

Advanced
JavaScript

JavaScript
Applications

JavaScript
Frameworks

Back-End 36 credits

Databases

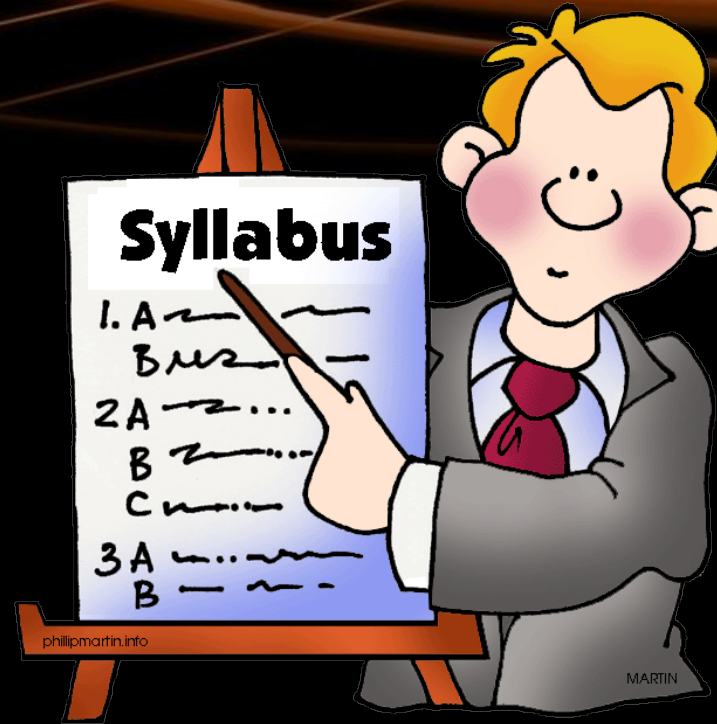
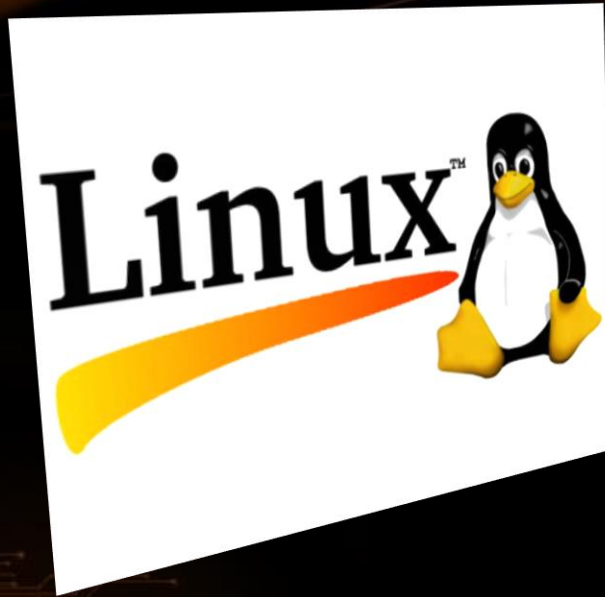
Database
Applications

Web Services
and Cloud

PHP Web
Development

ASP.NET MVC Web
Development

6 months

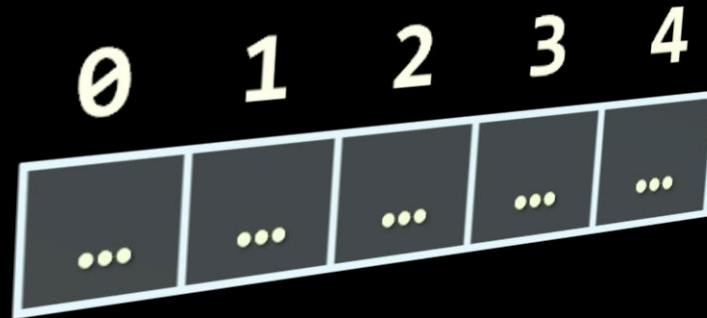


C Programming

Course Objectives & Program

Course Program

1. Course Introduction
2. Introduction to C Programming
3. Data Types and Formatted Input / Output
4. Program Control Flow – Conditional Statements, Loops
5. Functions
6. Arrays
7. Pointers



Course Program (2)

8. Memory Management

9. Characters and Strings

10. Bit Manipulation

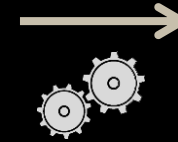
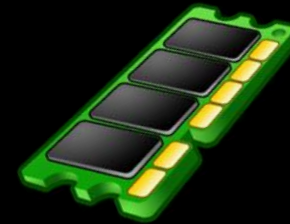
11. File Processing

12. The C Preprocessor

13. Other Topics – Structures, Unions, make and Makefiles, etc.

14. Exam Preparation

15. Practical Exam



`img.jpeg`

```
0101010110
10111100011
010100110100
110101001001
```




The Trainers Team

Trainers Team

■ Atanas Rusenov

- Technical Trainer @ Software University
- Top performing student from the Software University (2014)
- Keen on C Programming, Back-End Development, Data Structures, Algorithms and Operating Systems



Trainers Team

■ Svetlin Nakov, PhD

- Training & Inspiration Manager
@ Software University
- 20+ years software development experience
- 10+ years experience as trainer
- Author of 7 programming books
- Winner in International programming contests and Olympiads
- Speaker at hundreds of events
- Web site & blog: www.nakov.com





C Programming: More Details

Duration, Languages, Technologies

Training Duration – C Programming

- Lectures:
 - ~ 40 hours (onsite + YouTube videos)
- Homework & Exercises:
 - ~ 40-50 hours
- Schedule:
 - October-November 2015
- Practical exam:
 - 14 November 2015



Why English?

- Why the slides are in **English**?
 - **English** is the native language of the software engineers
 - Specific terminology should be in English
 - Translations are inaccurate and funny
- Just learn English!
 - No excuses





<input checked="" type="checkbox"/>	Excellent
<input type="checkbox"/>	Very good
<input type="checkbox"/>	Good
<input type="checkbox"/>	Average
<input type="checkbox"/>	Poor

C Programming

Evaluation Criteria

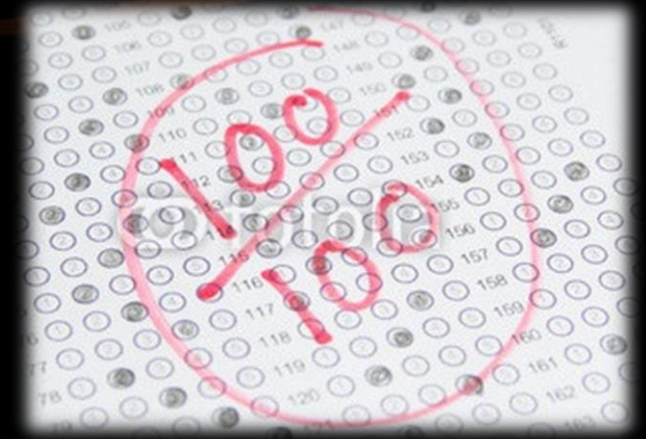
Scoring System for Course

- Practical Exam
 - 85%
- Homework + Evaluation
 - 10% + 5%
- Bonuses:
 - Up to 10%



The Practical Exam

- C Programming Practical Exam
 - 3 problems in the automated Judge System
 - If-else, loops, using proper data types
 - Character and string manipulation
 - Bit manipulation
 - 1 practical problem with files and streams, e.g.:
 - Split a large file into several small files and encrypt them
 - The program should display no memory leaks



The Judge System at the Exam

- The first 3 problems will be **tested automatically**
 - Through our automated online judge system
 - During the exam preparation you will practice how to use the automated judge system
 - You can register at any time to practice
- How the testing (judge) system works?
 - You submit your C source code
 - Your solution is tested with predefined **tests**
 - For each test passed you get some score



Homework Assignments

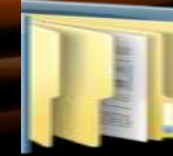
- Doing your homework is very **important!**
 - Programming can only be learned through a lot of practice!
 - You should write code every day!
- Each lecture is followed by a few exercises
 - Try to solve them in class
 - The rest are your homework
- Homework assignments are **due in 1 week** after each lesson
- Submission will be accepted through our web site: **softuni.bg**



Homework Peer Reviews

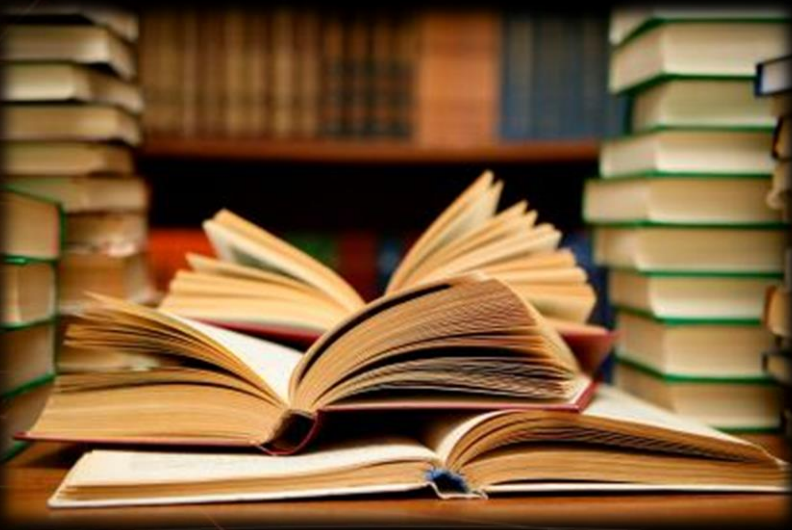
- Give feedback to a few random homework submissions
 - Students submit homework anonymously
 - Please exclude your name from the submissions!
 - For each homework submitted
 - Students evaluate 3 random homeworks
 - From the same topic, after the deadline
 - Give written feedback, at least 200 characters
 - Low-quality feedback → report for punishment
- Everyone will get feedback for their homework



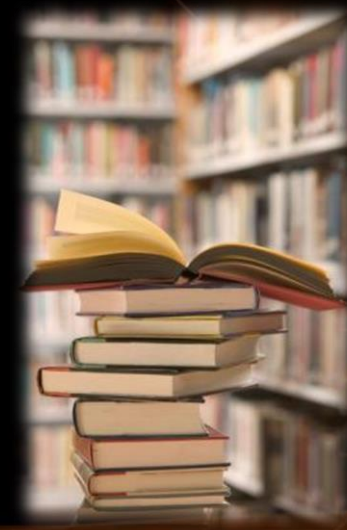


Resources

What We Need Additionally?



WIKIPEDIA
The Free Encyclopedia



Course Web Site & Forums

- The C Programming official **web site**:

<https://softuni.bg/trainings/1212/C-Programming-October-2015>

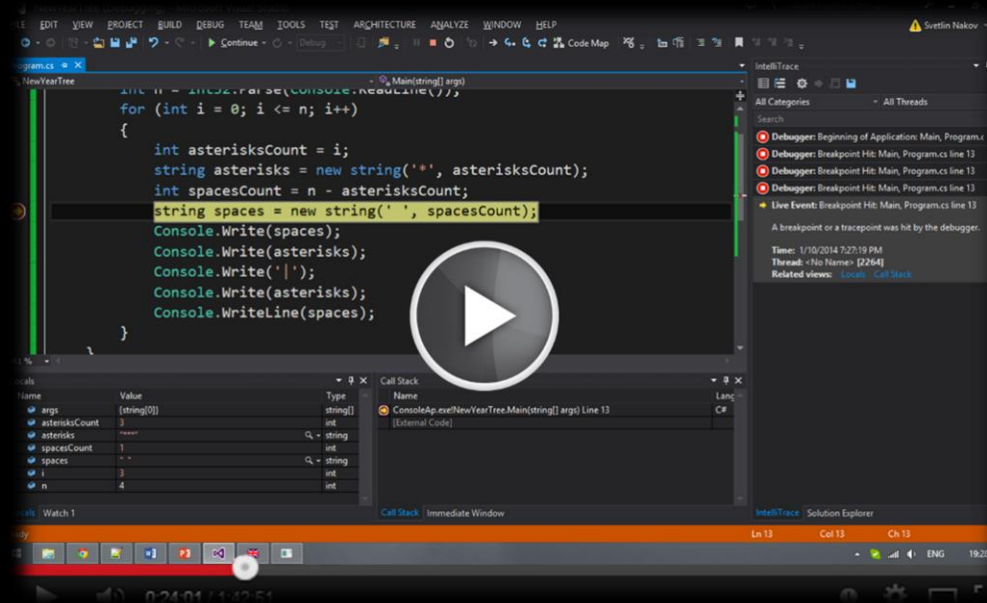
- Register for the "**Software University Forum**":
 - Discuss the course exercises with your colleagues
 - Find solutions for all course exercises
 - Share source code / discuss ideas / help each other



<https://softuni.bg/forum>

C Programming Slides and Videos

- All lecture slides, videos, homework assignments, projects and other resources are open content, available for free
- Visit the course web site to access the course resources

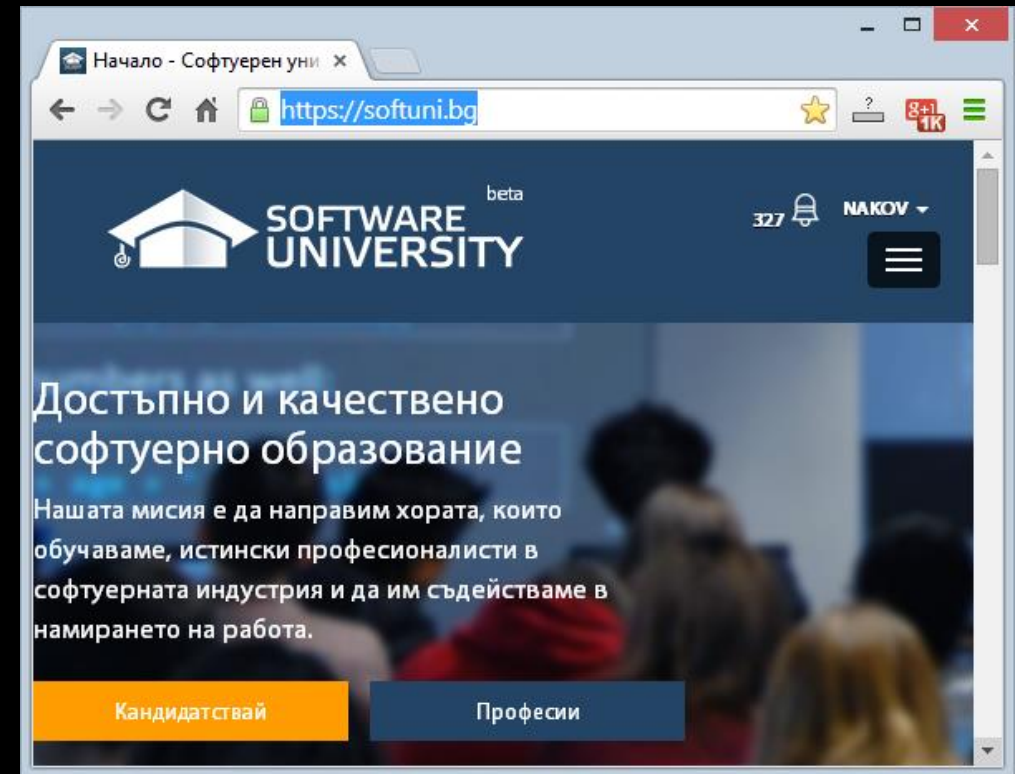


Software University Learning System (SULS)



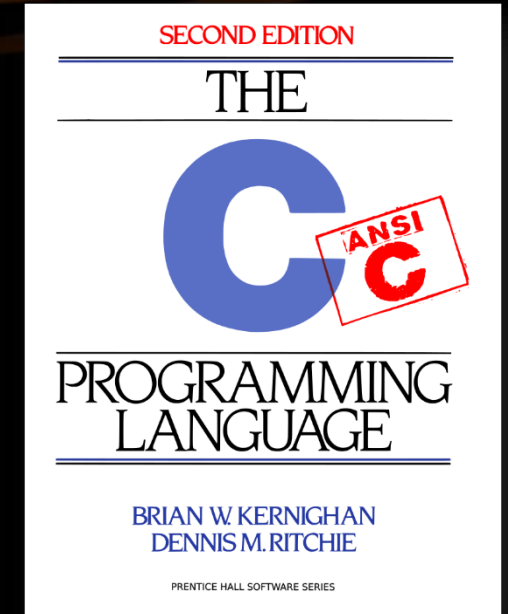
- Software University Learning System (SULS)

- www.softuni.bg
- Important resource for students
- Homework submissions
- Homework check-up
- Exams and results
- Reports about your progress
- ...



Additional Resources

- The C Programming Language 2nd Edition
by K&R (Brian Kernighan and Dennis Ritchie),
Prentice Hall, 1988, ISBN 978-0131103627
- Learn C the Hard Way
 - Free online book tutorial
- Stack Overflow
 - All programming questions answered
- Google – learn to search the Web efficiently



Recommended Software

- Xubuntu – popular lightweight Linux distribution
- GCC – standard C compiler (comes with any Linux distribution)
- Configurable development environments (IDEs) / text editors for writing C code (pick one):
 - NetBeans, Eclipse, Code::Blocks, Vim
- Evince – free and open source PDF viewer (for viewing the presentation slides)

C Programming – Course Introduction



Questions?



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