C Programming

Course Introduction, Program, Trainers, Evaluation, Exams

SoftUni Team

Technical Trainers

Software University

http://softuni.bg

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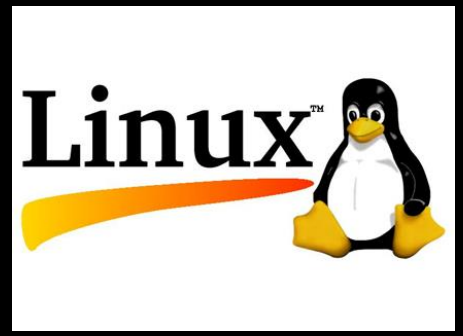

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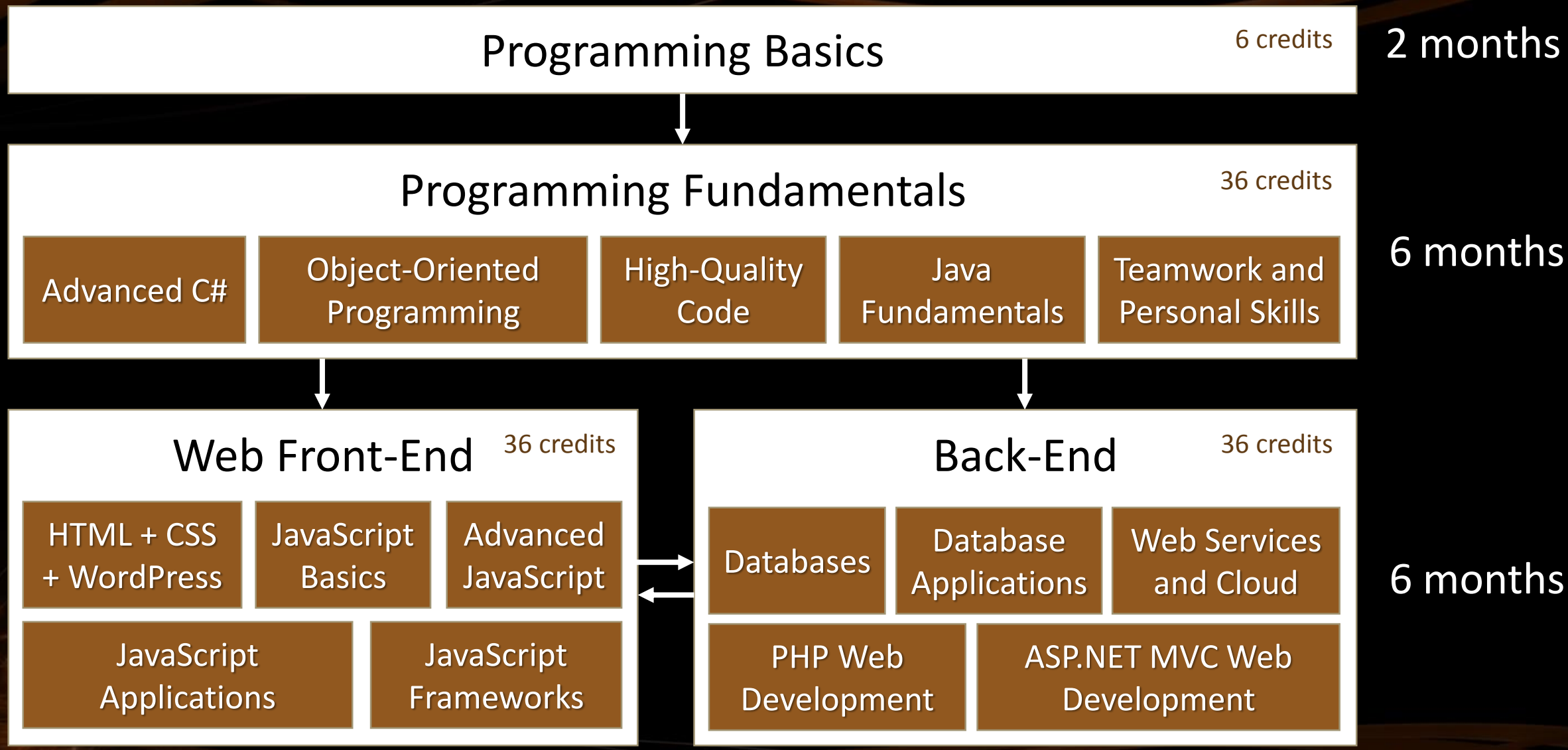
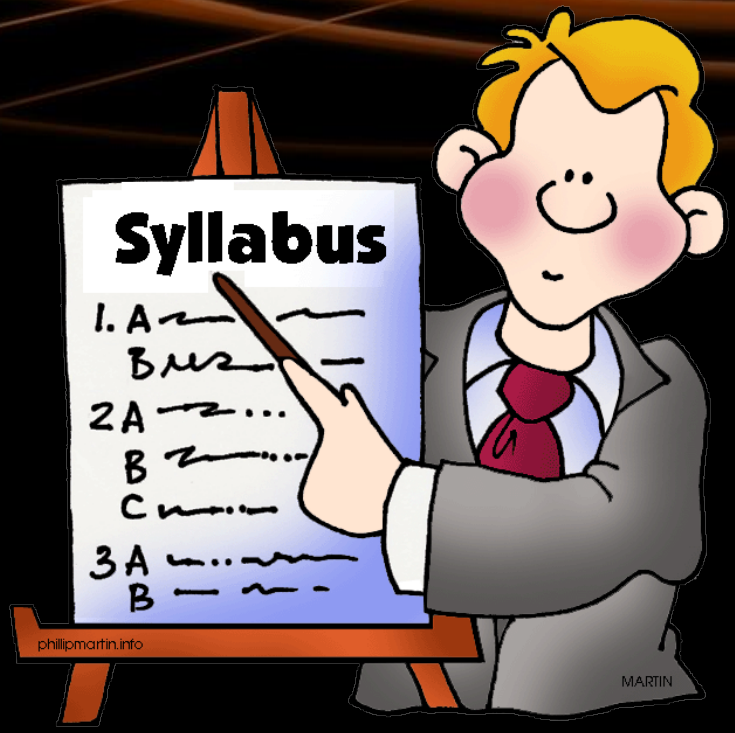
SoftUni: Levels, Modules, Schedule



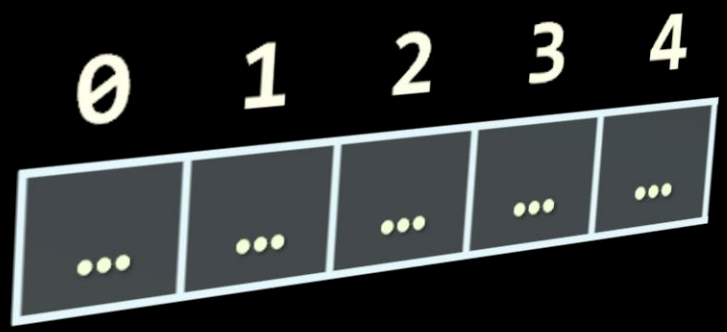


C Programming

Course Objectives & Program

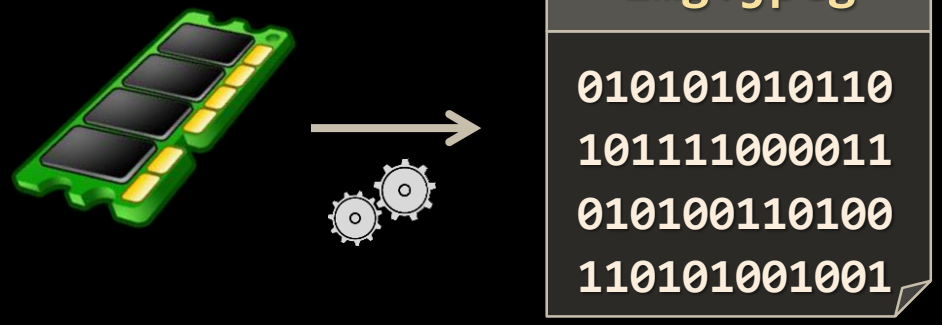
Course Program

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



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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

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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

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C Programming

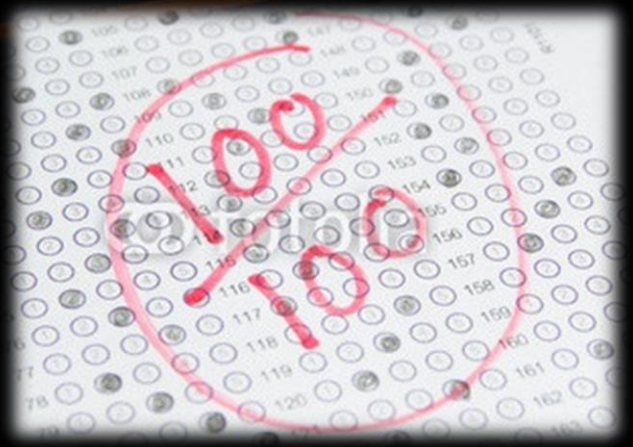
Evaluation Criteria

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

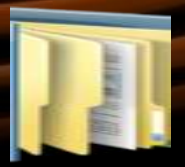
- Doing your homework is very important!
  - Programming can only be learned through a lot of practice!
  - You should write code every day!
- Each lecture is followed by a few exercises
  - Try to solve them in class
  - The rest are your homework

- Homework assignments are due in 1 week after each lesson
- Submission will be accepted through our web site: softuni.bg

Homework Peer Reviews

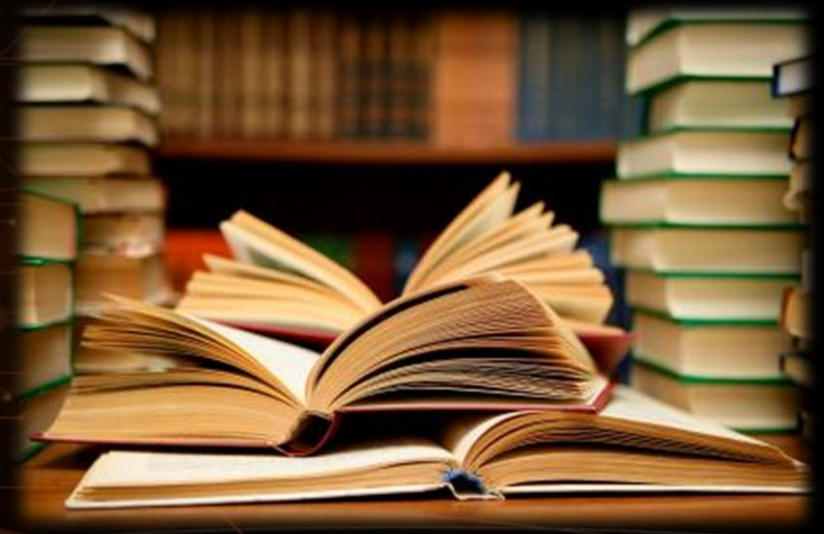
- Give feedback to a few random homework submissions
  - Students submit homework anonymously
    - Please exclude your name from the submissions!
  - For each homework submitted
    - Students evaluate 3 random homeworks
    - From the same topic, after the deadline
    - Give written feedback, at least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

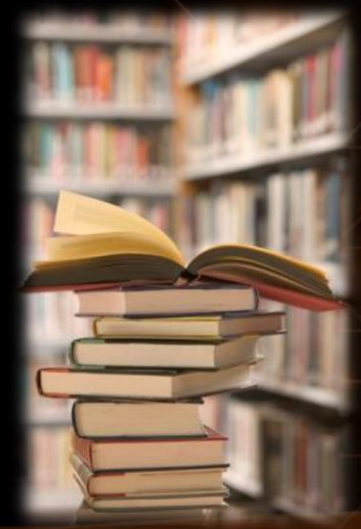


Resources

What We Need Additionally?



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

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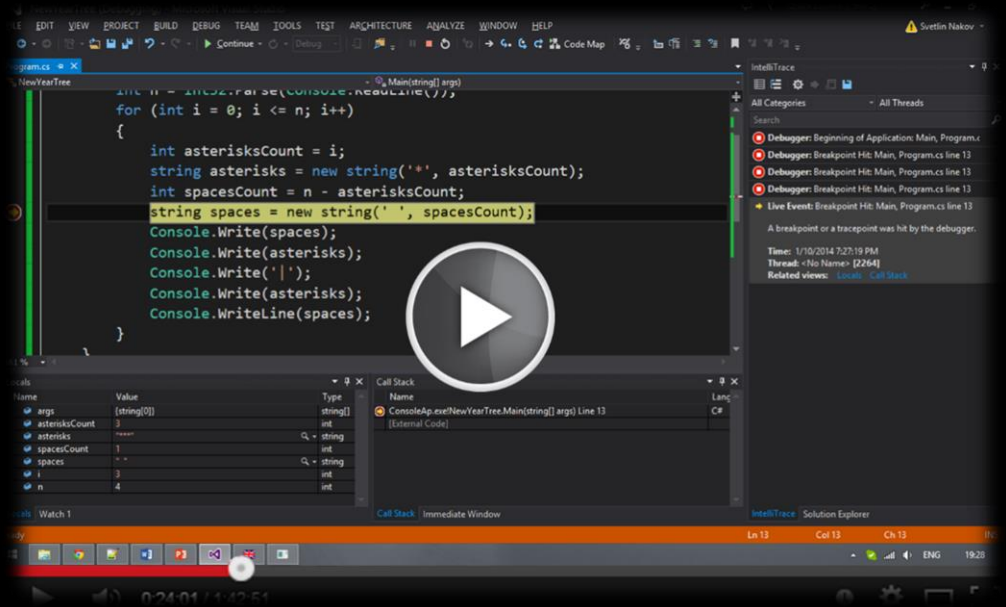
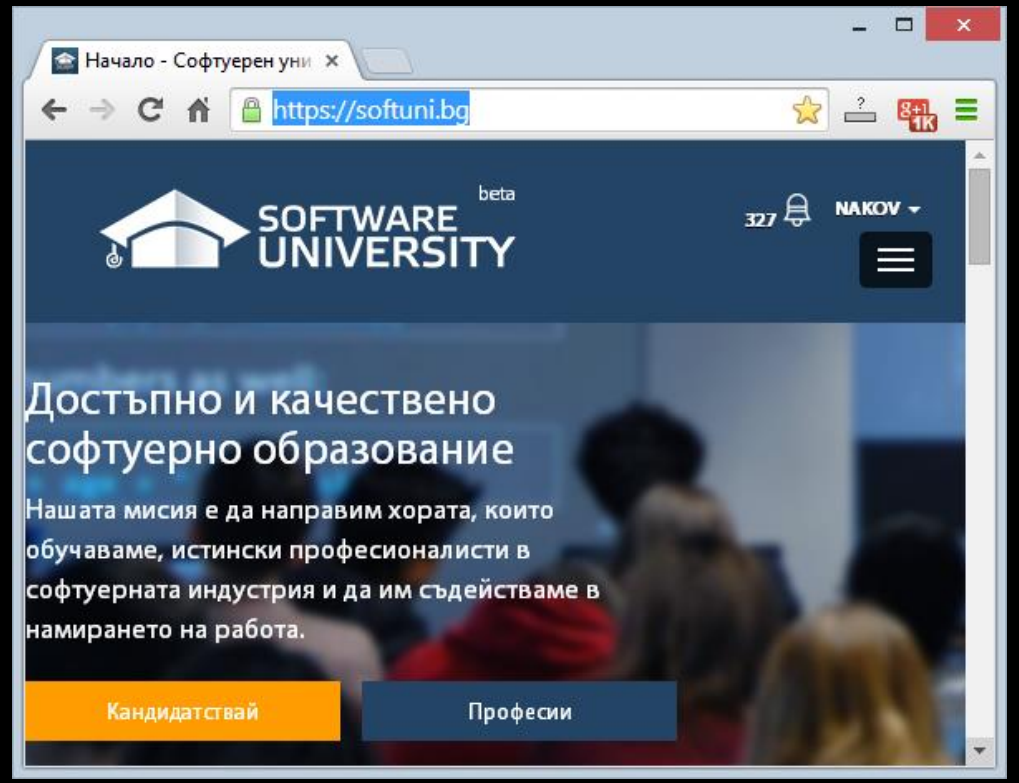
- All lecture slides, videos, homework assignments, projects and other resources are open content, available for free
  - Visit the course web site to access the course resources



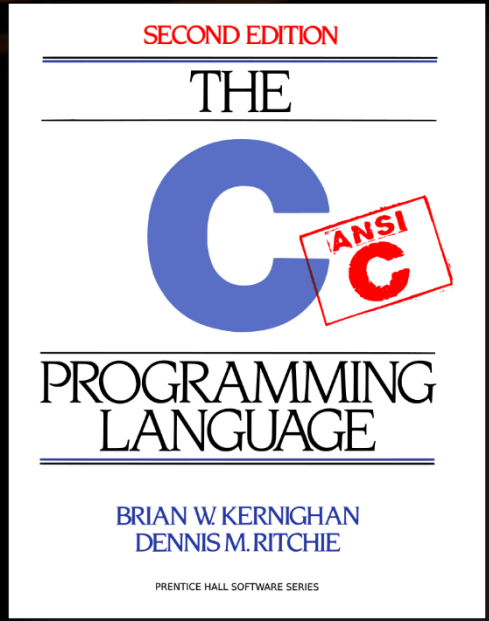
Software University Learning System (SULS)

- 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

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Questions?

https://softuni.bg/trainings/1212/c-programming-october-2015

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