Ho Chi Minh City University of Technology
Faculty of Computer Science and Engineering

Introduction to Computer Programming

Undergraduate Course

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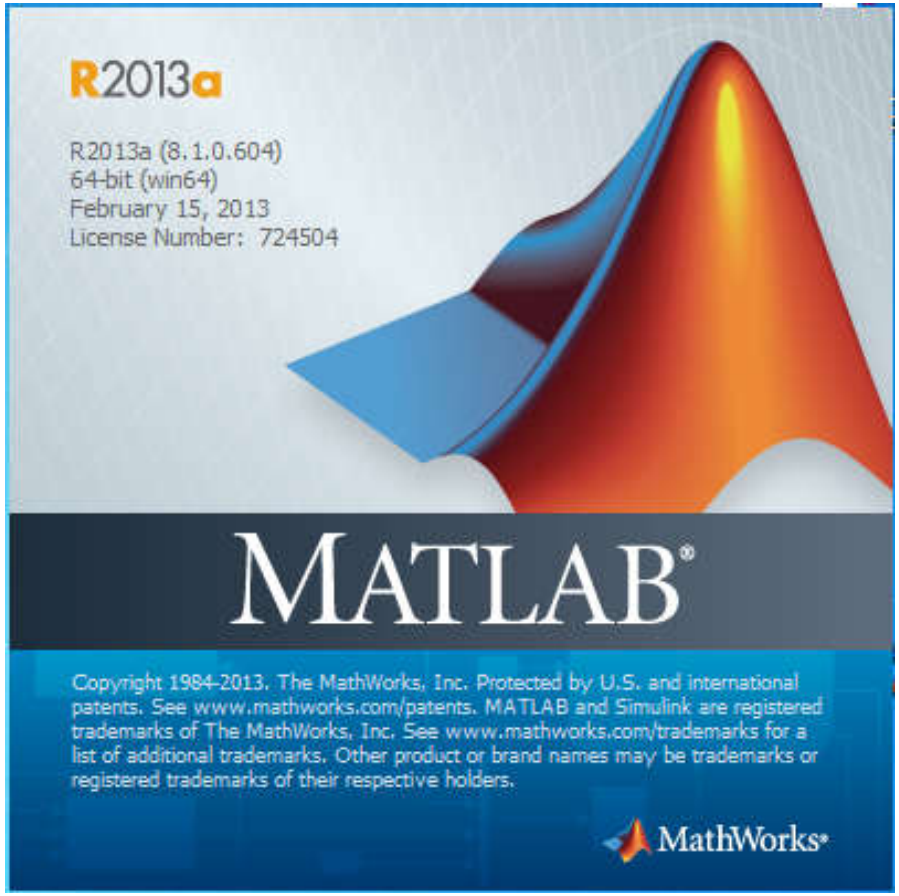
Introduction

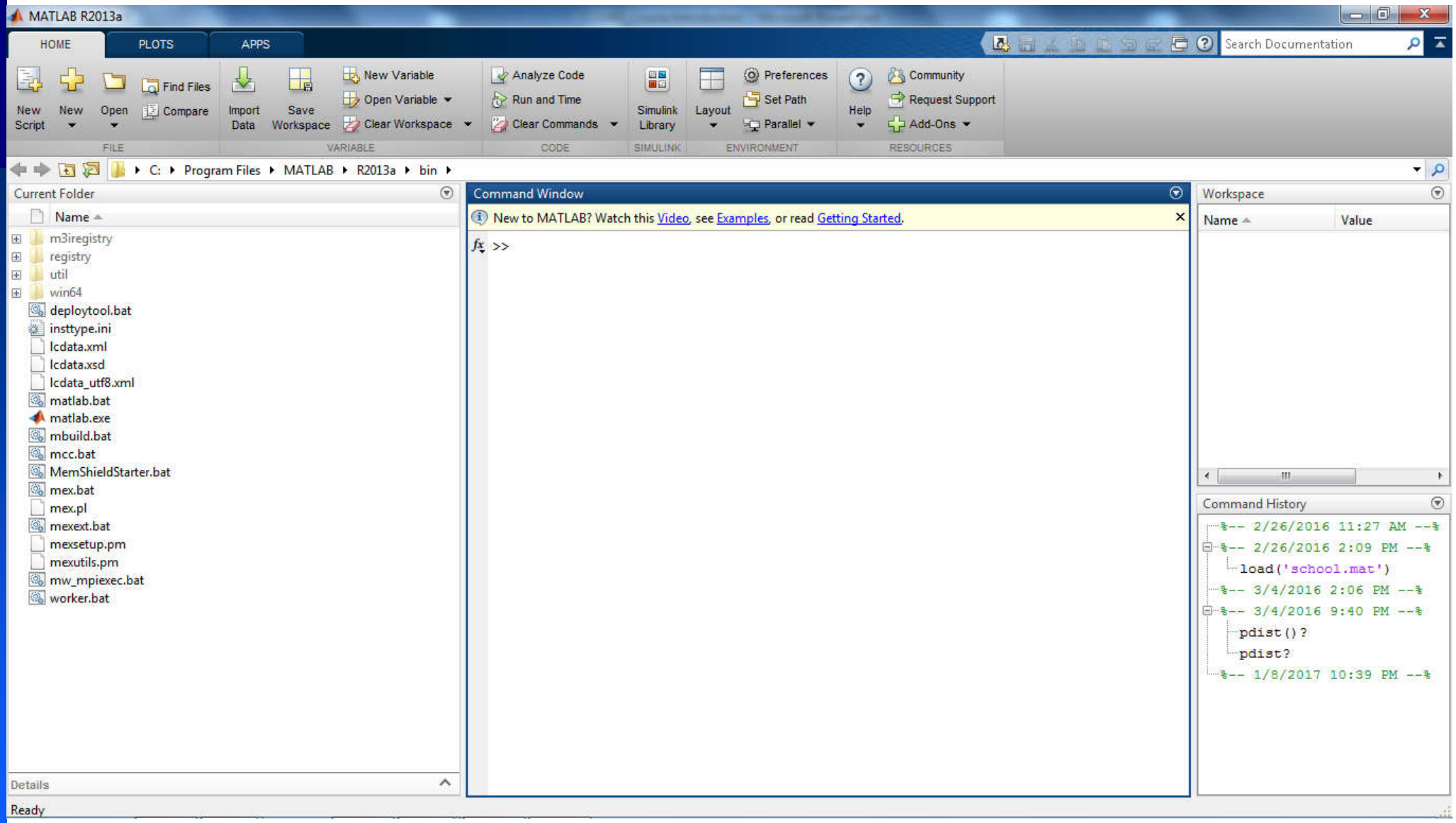
- Course ID = CO1003
- Introduction to Computer Programming
  - Programming language: C
- Nhập môn Lập trình
  - Ngôn ngữ lập trình: C

Introduction

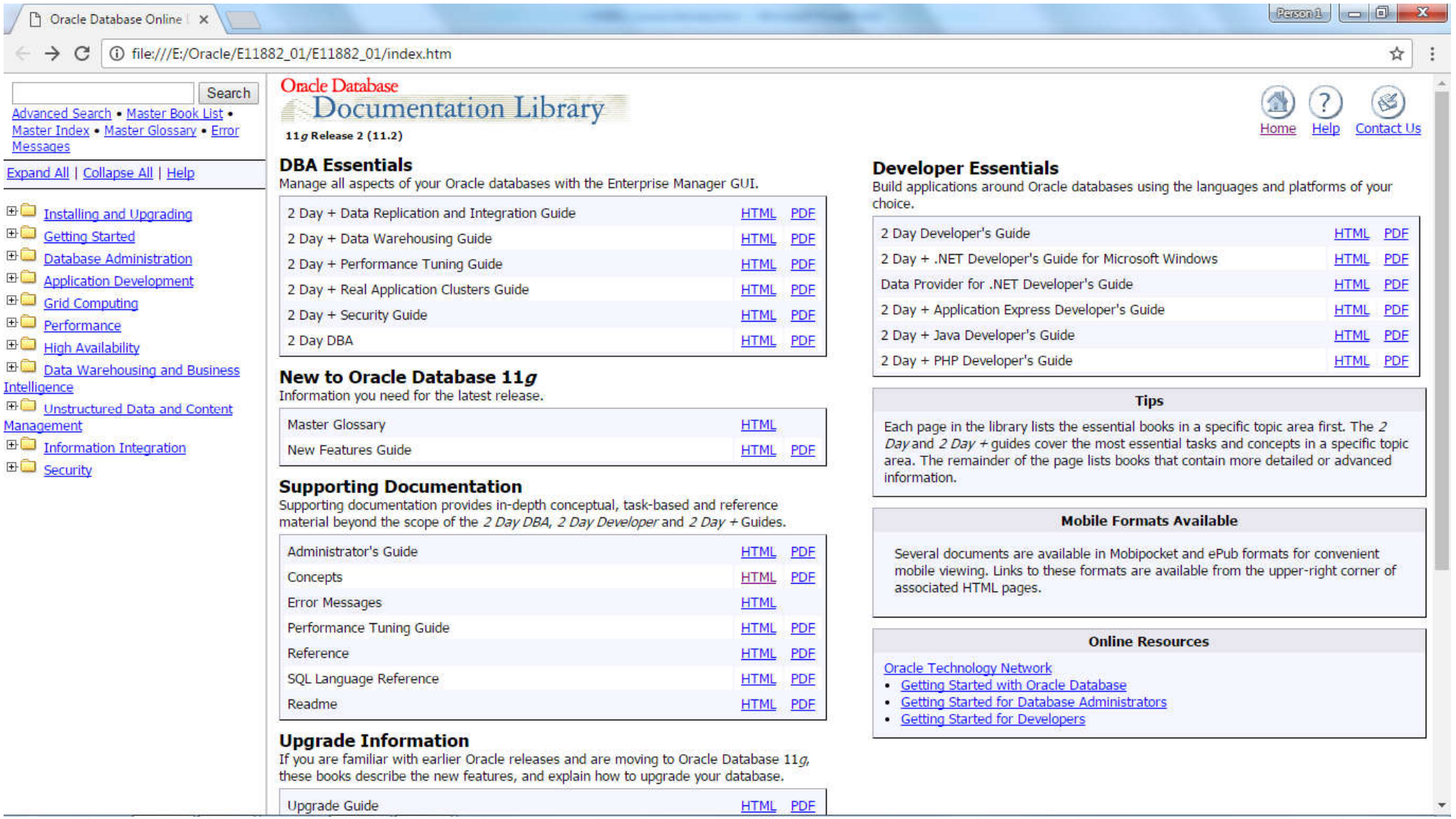


MatLab (www.mathworks.com)

Introduction

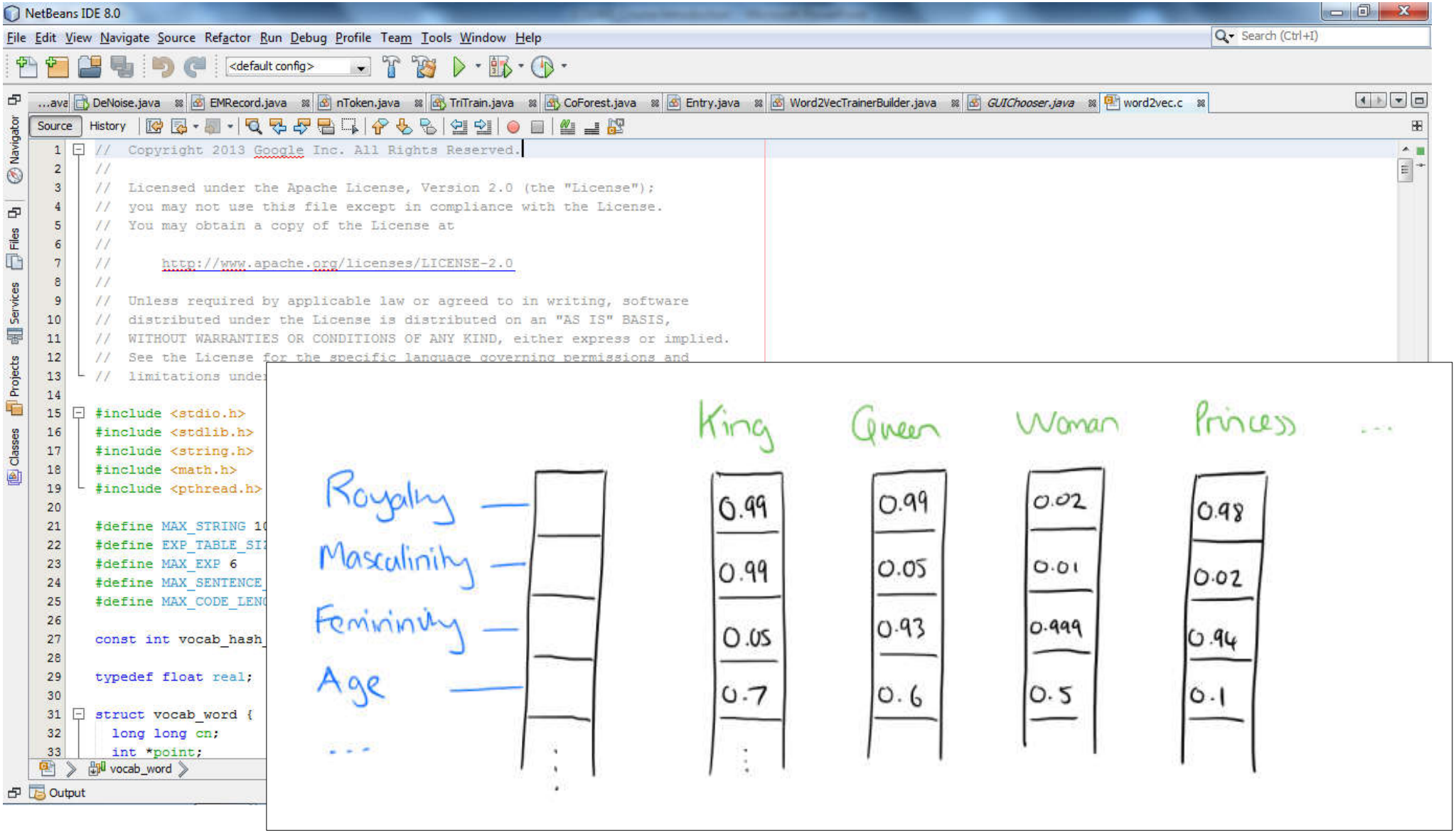


Introduction



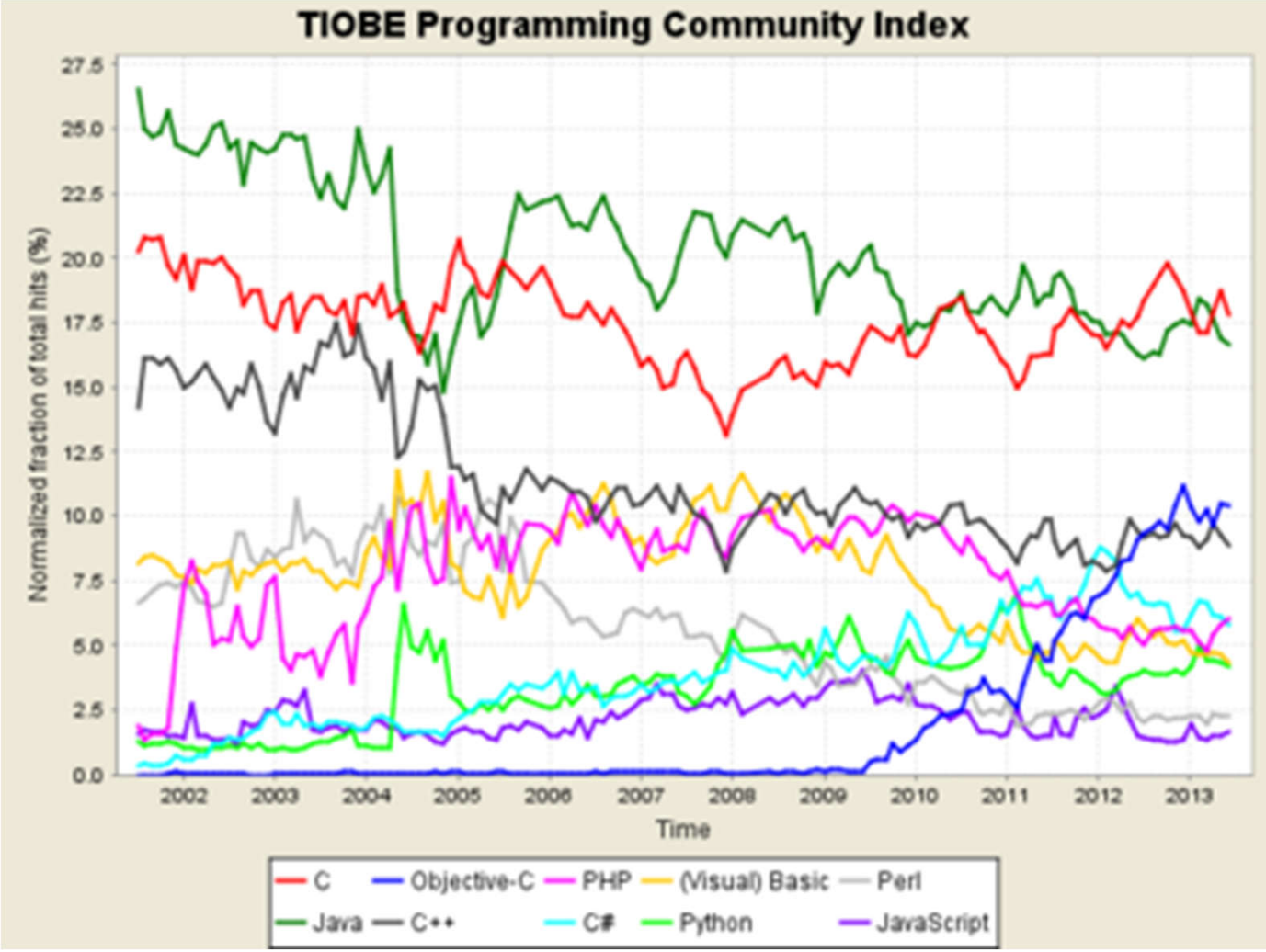
Oracle Database (www.oracle.com). Oracle Version 3, released in 1983, was the first relational database to run on mainframes, minicomputers, and PCs. The database was written in C, enabling the database to be ported to multiple platforms.

Introduction



Tools for computing distributed representation of words (https://code.google.com/p/word2vec/)

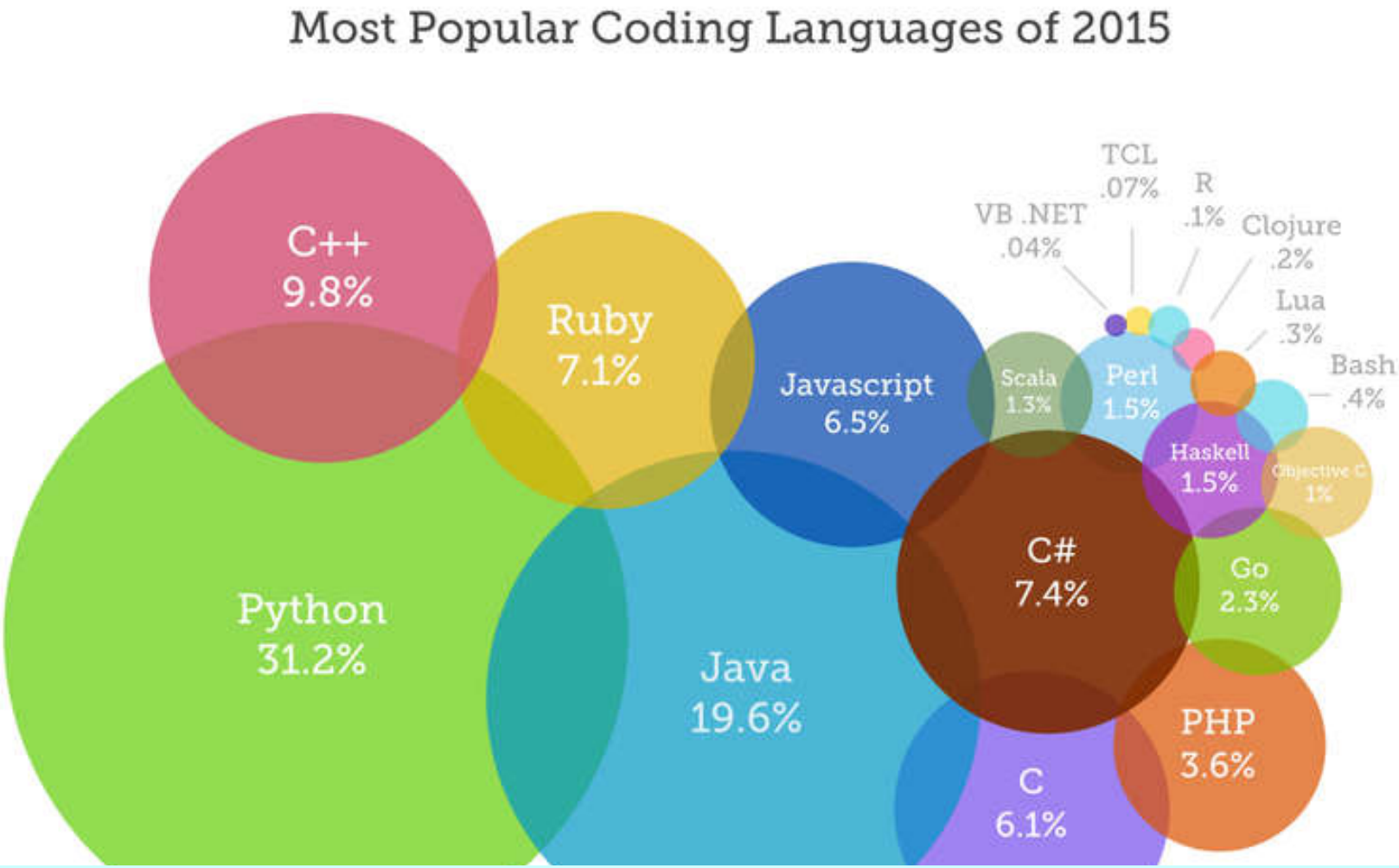
Introduction



The TIOBE index graph from 2002 to 2015, showing a comparison of the popularity of various programming languages

C (Programming Language) - Wikipedia

Introduction



"You can increase your knowledge by learning about C this year that is unique programming language. Being the oldest, it should be learnt firstly when you start up, and it is mainly applied in forming different softwares." - 10 Best Programming Languages of 2015 You Should Know – www.devsaran.com

Introduction

- Compilers, libraries and interpreters of other programming languages are often implemented in C.
  - The primary implementations of Python, Perl 5 and PHP
- The GNU Multiple Precision Arithmetic Library, the GNU Scientific Library, Mathematica, and MATLAB are completely or partially written in C.
- And the others such as operating systems, embedded system applications, …

Can we create wonderful programs using the C language? Why not?!

YES

Course Objectives

- A comprehensive introductory course for the students who have no background in computer programming

and thus, the course …

- Provides the students with basic knowledge on computer and computer programming with C
- Helps the students practice programming skills for using C language

Course Learning Outcomes

Upon completing the course successfully, the student is able to:

- Have comprehensive understanding about computer, computer programming, programming's tasks, and a typical C program
- Use data types supported in C
- Describe and implement algorithms
- Organize large problems written in C
- Use array data type
- Use pointer data type
- Use file data type and other combination skills

Course Content

- C.1. Introduction to Computers and Programming
- C.2. C Program Structure and its Components
- C.3. Variables and Basic Data Types
- C.4. Selection Statements
- C.5. Repetition Statements
- C.6. Functions
- C.7. Arrays
- C.8. Pointers
- C.9. File Processing

Course Content – Timetable

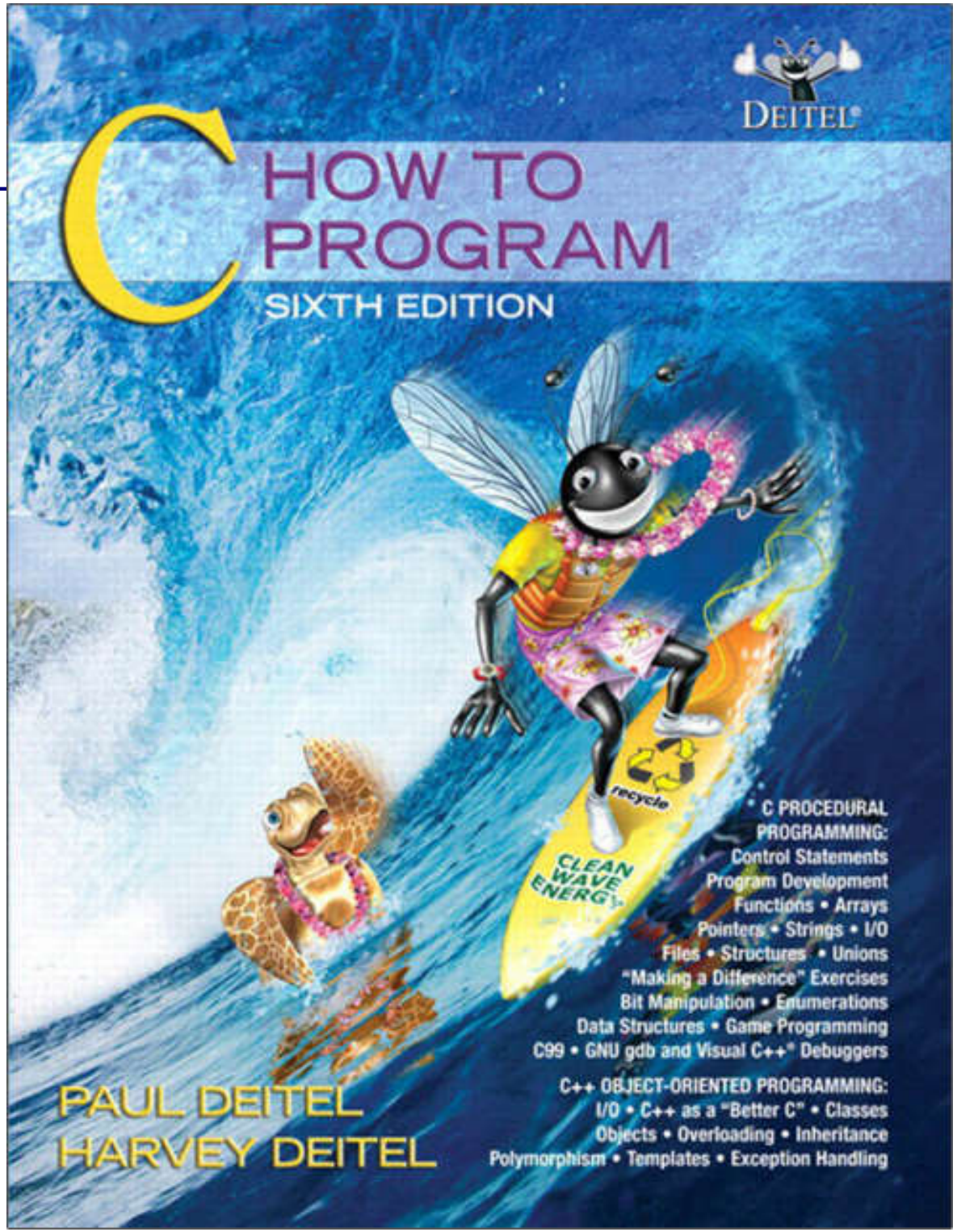
- C.1. Introduction to Computers and Programming (p. 1)
- C.2. C Program Structure and its Components (p. 2-3)
- C.3. Variables and Basic Data Types (p. 4-8)
- C.4. Selection Statements (p. 9-10)
- C.5. Repetition Statements (p. 11-14)
- C.6. Functions (p. 15-18)
- C.7. Arrays (p. 19-22)
- C.8. Pointers (p. 23-28)
- C.9. File Processing (p. 29-30)

References

- [1] "*C: How to Program"*, 7th Ed. – Paul Deitel and Harvey Deitel, Prentice Hall, 2012.
- [2] *"The C Programming Language"*, 2nd Ed. – Brian W. Kernighan and Dennis M. Ritchie, Prentice Hall, 1988
- and others, especially those on the Internet

References

"*C: How to Program*", 6th Ed. – Paul Deitel and Harvey Deitel, Prentice Hall, 2010.



Grading

- Practice: 30%
- Assignment: 30%
- Final Exam: 40%

→ **Pass** if

Practice*0.3 + Assignment*0.3 +

Final Exam*0.4 ≥ 5.0

→ **NOTE**: if one component has a grade of less than 3 (grade<3), the final grade will be that grade regardless of the others.

Grading

- Practice: 30%
  - Home Practices
  - Final In-class Practice
- Assignment: 30%
  - Group of 3-4 Students
  - Informed in Practice Class
- Final Exam: 40%

Grading

- Never copy from the others
- Never let the others copy from you
- Never be absent from class if not necessary
- Never be absent from practice

Contact

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  - By appointment

CO1003: Introduction to Computer Programming