

# CE103 Algorithms and Programming I

C# Functional Console Programming

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### 1 CE103 Algorithms and Programming I

#### 2 Week-7

2.0.0.1 Fall Semester, 2021-2022 Download DOC<sup>1</sup>, SLIDE<sup>2</sup>, PPTX<sup>3</sup>

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### 3 C# Functional Console Programming

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We will follow the following topics

- Learn C# Programming<sup>4</sup>

Books

Free C# Programming Book<sup>5</sup>

free-programming-books/free-programming-books-langs.md at master · EbookFoundation/free-programming-books · GitHub<sup>6</sup>

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<sup>1</sup>ce103-week-7-csharp.tr.md\_doc.pdf

<sup>2</sup>ce103-week-7-csharp.tr.md\_slide.pdf

<sup>3</sup>ce103-week-7-csharp.tr.md\_slide.pptx

<sup>4</sup><https://www.programiz.com/csharp-programming>

<sup>5</sup><https://goalkicker.com/CSharpBook/>

<sup>6</sup>[https://github.com/EbookFoundation/free-programming-books/blob/master/books/free-programming-books-langs.md#c-sharp](https://github.com/EbookFoundation/free-programming-books/blob/master/books/free-programming-books-langs.md#-c-sharp)

### 3.1 Extras

[Creating a Simple Dynamic-Link Library - Win32 apps | Microsoft Docs](#)<sup>7</sup>

[Dynamic-Link Library Creation - Win32 apps | Microsoft Docs](#)<sup>8</sup>

[Exporting from a DLL | Microsoft Docs](#)<sup>9</sup>

[Exporting from a DLL Using DEF Files | Microsoft Docs](#)<sup>10</sup>

[How to create a DLL library in C and then use it with C# - CodeProject](#)<sup>11</sup>

[DLL - How to Write](#)<sup>12</sup>

[DLL - Dynamic Link Library in C - Steps to Create and Use](#)<sup>13</sup>

[https://www.codementor.io/@a\\_hathon/building-and-using-dlls-in-c-d7rrd4caz](https://www.codementor.io/@a_hathon/building-and-using-dlls-in-c-d7rrd4caz)

[DLL Injection - free code corner](#)<sup>14</sup>

[GitHub - dennisbabkin/InjectAll: Tutorial that demonstrates how to code a Windows driver to inject a custom DLL into all running processes. I coded it from start to finish using C++ and x86/x64 Assembly language in Microsoft Visual Studio. The solution includes a kernel driver project, a DLL project and a C++ test console project.](#)<sup>15</sup>

[Coding Windows Kernel Driver - InjectAll - Making the Visual Studio solution for DLL injection into all running processes.](#)<sup>16</sup>

### 3.2 Others

[std::dec, std::hex, std::oct - cppreference.com](#)<sup>17</sup>

[std::setbase - cppreference.com](#)<sup>18</sup>

[C++ Tutorial: Multi-Threaded Programming - Thread for Win32 - 2020](#)<sup>19</sup>

1. Csharp Programming
  - a. Introduction
  - b. C# Hello World
  - ii. C# Keywords & Identifiers
  - iii. C# Variables
  - iv. C# Operators
  - v. C# Basic I/O
  - vi. C# Expressions & Statements
  - vii. C# Comments
    - b. Flow Control
    - c. C# if..else

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<sup>7</sup><https://docs.microsoft.com/en-us/windows/win32/dlls/creating-a-simple-dynamic-link-library>

<sup>8</sup><https://docs.microsoft.com/en-us/windows/win32/dlls/dynamic-link-library-creation>

<sup>9</sup><https://docs.microsoft.com/en-us/cpp/build/exporting-from-a-dll?view=msvc-170&viewFallbackFrom=vs-2019>

<sup>10</sup><https://docs.microsoft.com/en-us/cpp/build/exporting-from-a-dll-using-def-files?view=msvc-170>

<sup>11</sup><https://www.codeproject.com/Articles/9826/How-to-create-a-DLL-library-in-C-and-then-use-it-w>

<sup>12</sup>[https://www.tutorialspoint.com/dll/dll\\_writing.htm](https://www.tutorialspoint.com/dll/dll_writing.htm)

<sup>13</sup><https://www.interviewsansar.com/dll-dynamic-link-library-in-c/>

<sup>14</sup><https://sites.google.com/site/freecodecorner/technologies/process-info/dll-injection>

<sup>15</sup><https://github.com/dennisbabkin/InjectAll>

<sup>16</sup><https://dennisbabkin.com/blog/?i=AAA10800>

<sup>17</sup><https://en.cppreference.com/w/cpp/io/manip/hex>

<sup>18</sup><https://en.cppreference.com/w/cpp/io/manip/setbase>

<sup>19</sup>[https://www.bogotobogo.com/cplusplus/multithreading\\_win32A.php](https://www.bogotobogo.com/cplusplus/multithreading_win32A.php)

- ii. C# for loop
- iii. C# while loop
- iv. C# foreach loop
  - v. C# switch statement
- vi. C# ternary operator
- vii. Exception Handling
- viii. Other Topics
  - ix. C# Bitwise Operators
    - x. C# Preprocessor Directives
  - xi. C# Namespaces
  - xii. C# Partial Class & Method