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# Motivatie

Dacă sunteți dezvoltator începător si doriți sa intelegeti cum se face dezvoltarea software a aplicatiilor, C# este o alegere excelentă din mai multe motive:

* ca parte din framework-ul .NET Core va fi utilizat în dezvoltarea aplicaţiilor web / desktop / mobile
* C# are biblioteci robuste şi foarte diverse (pentru lucrul cu sistemul de fișiere, gestionarea securității, etc...)
* Exista tutoriale free pe care le puteti urma singuri dupa acest curs de programare care va pot indruma mai departe pentru a deveni programator profesionist

**﻿Cine ar trebui să urmeze acest curs?**

Cursul este adresat acelor persoane care vor sa învețe noțiunile de baza in programare , dezvoltând in același timp o aplicație simpla.

# C# FOR ABSOLUTE BEGINNERS

public class Program()

{

}

Prerequisites:

Visual Studio with .NET Desktop Development

Start

# LESSON 1 =MY FIRST CONSOLE

## PROGRAM

Structure of a .NET Console

Framework functions ( console )

## SIMPLE VARIABLES

**BOOLEAN : TRUE , FALSE STRING**

Concatenation, interpolation , substring ...

**INT**

addition, increment, modulo, ...

**DATES**

## DECISION / LOOPS

**IF , ELSE, SWITCH**

**WHILE , FOR , FOREACH**

## DATA TYPES + NULLABLE + CONVERTING

Other data types( byte, float, long )

Converting between them

**FINAL QUESTIONS FOR LESSON**

Home[work:](https://learn.microsoft.com/en-us/training/paths/csharp-data/) https://learn.microso .com/en[us/training/paths/csharp-data/](https://learn.microsoft.com/en-us/training/paths/csharp-data/)

# LESSON 2

Questions for Lesson 1

## METHODS IN C#

Calling function from C# Framework

Creating methods

Return values from functions ( Tuple, out, ref )

## EXCEPTIONS IN C#

Try / Catch / Finally

Exercise : check a IBAN-13 [https://en.wikipedia.org/wiki/ISBN#](https://en.wikipedia.org/wiki/ISBN)

## ENUMS IN C#

Exercise : check a IBAN-13 [https://en.wikipedia.org/wiki/ISBN#](https://en.wikipedia.org/wiki/ISBN)

**VARIABLES AND METHODS**

LifeTime / Visibility

**FINAL QUESTIONS FOR LESSON**

Ho[mework:](https://learn.microsoft.com/en-us/training/paths/csharp-first-steps/) https://learn.microso .com/en[us/training/paths/csharp-first-steps/](https://learn.microsoft.com/en-us/training/paths/csharp-first-steps/)

# LESSON 3

Questions for Lesson 2

## CLASSES / NAMESPACES

Properties / fields

Methods new operator

Static

## METHODS

Optional operators

## VALUE VS REFERENCE TYPES

Equality operator

Equal string special case

## FINAL QUESTIONS FOR LESSON

Home[work:](https://learn.microsoft.com/en-us/training/paths/csharp-logic/) https://learn.microso .com/en[us/training/paths/csharp-logic/](https://learn.microsoft.com/en-us/training/paths/csharp-logic/)

# LESSON 4

Questions for Lesson 3

## CONSTRUCTOR WITH PARAMETERS

## INTERFACES

## INHERITANCE / COMPOSITION

Overloading / Overriding

**FINAL QUESTIONS FOR LESSON**

# LESSON 5

Questions for Lesson 4

## STATIC , ABSTRACT

## GENERIC TYPES

## GENERIC COLLECTIONS

**FINAL QUESTIONS FOR LESSON**

# LESSON 6

Questions for Lesson 5

## EXAMPLE OF CLASSES: WORKING

**WITH FILES AND FOLDERS IN C#**

## FINAL QUESTIONS FOR LESSON

[Homework:](https://learn.microsoft.com/en-us/training/paths/build-dotnet-applications-csharp/) https://learn.microso .com/en[us/training/paths/build-dotnet-applications-csharp/](https://learn.microsoft.com/en-us/training/paths/build-dotnet-applications-csharp/) (

without webapi )

# LESSON 7

Questions for Lesson 6

## LIBRARY TO BORROW BOOKS

A library has a collection of books, each one belongs on a shelter . The library could have multiple copies of the same book .

A book can have one or more authors.

A person could borrow not more than 3 books from a library for a maximum of 3 weeks.

Make an application that , once a library of books has data

1. Could find books by the name of the author ( starting, containing )
2. Could find books by the name of the book ( starting, containing )
3. Could find books that are borrowed to someone

When finding a book, should list if the book is available or not to be borrowed.

## FINAL QUESTIONS FOR LESSON

# LESSON 8

Questions for Lesson 7

## CONTINUING EXERCISE 7

**FINAL QUESTIONS FOR LESSON**