

## Week 1. Introduction to C# language. .NET framework fundamentals. OOP basics.

Useful links:

- 1) Inside a C# program (The section discusses the general structure of a C# program , and includes the standard “Hello, World !” example.)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/inside-a-program/index>
- 2) Main() and command-line arguments (C# Programming Guide)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/main-and-command-args/index>
- 3) Types (C# Programming Guide) (The section discusses variables and values)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/types/index>
- 4) Arrays (C# Programming Guide)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/arrays/index>
- 5) Strings (C# Programming Guide)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/strings/index>
- 6) Statements, Expressions, and Operators (C# Programming Guide)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/statements-expressions-operators/index>
- 7) Object-Oriented Programming (C#)  
<https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/concepts/object-oriented-programming>
- 8) Git tutorials  
<https://githowto.com/>  
<https://git-scm.com/book/ru/v1/%D0%92%D0%B2%D0%B5%D0%B4%D0%B5%D0%BD%D0%B8%D0%B5-%D0%A3%D1%81%D1%82%D0%B0%D0%BD%D0%BE%D0%B2%D0%BA%D0%B0-Git>

### Task 1 (20%)

1. Write an application to find a prime numbers from a given set. (10%)

Sample Input	Sample Output
5 1 2 3 4 5	3 2 3 5

2. For each step of your solution add comments(10%)

Example:

```
int a = Math.Sqrt(10) //taking square root of 10 using Math
```

### Task 2(25%)

Implement a class Student. Student has a name, id and a year of study. Provide a constructor with two parameters and create methods to access name, id and increment the year of study.

### Task 3(25%)

1. Write a method that makes out of an array of integers another array of integers, where every element is repeated. (15%)
2. For each step of your solution add comments. (10%)

Sample Input	Sample Output
3 1 2 3	1 1 2 2 3 3

### Task 4(15%)

Draw a StarTriangle using 2D array.

Sample Input	Sample Output
3	[*] [*][*] [*][*][*]

Sample Input	Sample Output
5	[*] [*][*] [*][*][*] [*][*][*][*] [*][*][*][*][*]

## Task 5 (15%)

Upload all your solved problems to github repo like following structure

1. PP2
  1. Week 1
    1. Task1
    2. Task2
    3. Task3
    4. Task4

Example of how to push to the git (First of all, it is better to look to the tutorials on the Internet or from useful links):

`git add FILE_NAME` - **add file to git (or `git add .`)**

`git commit -m "comment"` - **command for saving all the changes**

`git pull -u origin master` - **downloading latest version from the repository**

`git push -u origin master` - **push the local changes to the repository**

Good luck :)