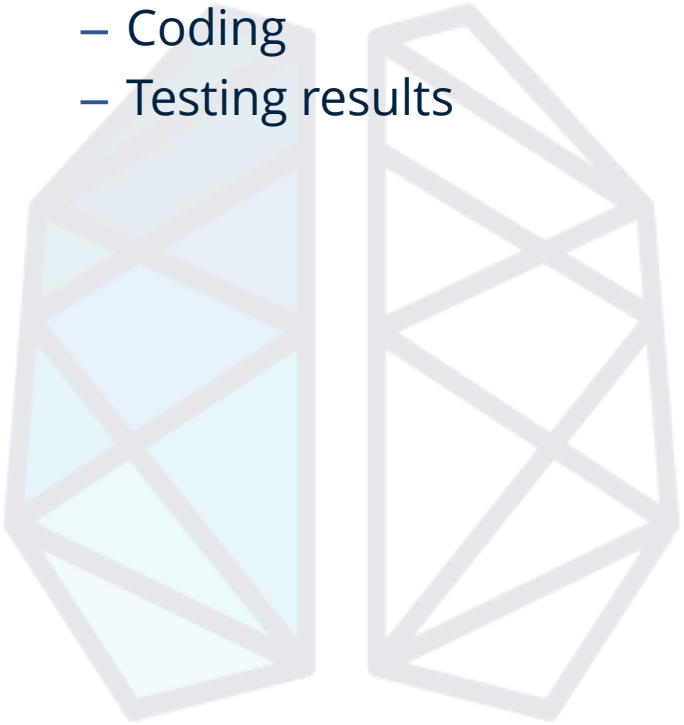
Basic principles of C #, CLR

Lab work "Strings"

MAIN ACADEMY

Lab work contents

- Basic principles of C #, CLR. Lab work Strings
  - Formulation of the tasks
  - Coding
  - Testing results



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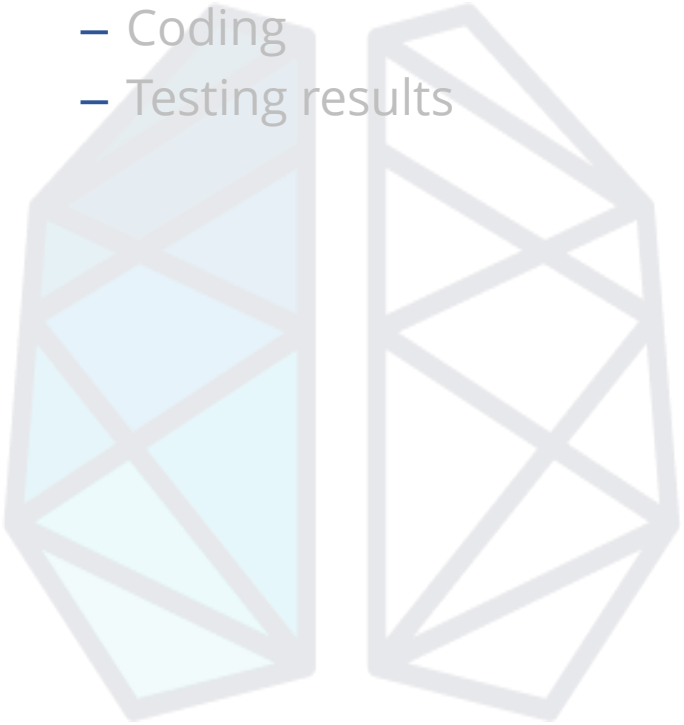

Formulation of the tasks (1/6)

- Please use the Hello_Console_stud application template from the folder Begin to create a console application for the tasks:
  - Absolute value of the difference between two numbers written as a unary string
  - Record of the number as a binary string
  - Realize Morse code as sounds
- Verify that the template allows you to branch the task and are valid

Formulation of the tasks (2/6)

- “Absolute value of the difference between two numbers written as a unary string” description:
  - Enter two positive integers
  - Present each of them in the form of unary string

    For example, 4 as 1111
  - Find the absolute value of the difference of these two numbers
  - Print the obtained value as a unary string and as a number

Formulation of the tasks (3/6)

- “Absolute value of the difference between two numbers written as a unary string” description:
  - Please, to enter two positive integers use type casting
  - To present each of them in the form of unary string use for loop
  - Use concatenation of these two strings. Note it is necessary to use some symbol (for example “#”) to separate

Formulation of the tasks (4/6)

- “Absolute value of the difference between two numbers written as a unary string” description:
  - Realize the next algorithm

  - Print the obtained value as a unary string and as a number

Formulation of the tasks (5/6)

- “Record of the number as a binary string” description:
  - Enter positive integer
  - Present it like binary string
    For example, 4 as 100
  - Use modulus operator to obtain the remainder (n % 2) sequentially
  - Print the result in binary and decimal format

Formulation of the tasks (6/6)

- “Realize Morse code as sounds” description:
- Use the music example for the next task
  - realize Morse code (encoding alphabet as standardized sequences of short and long signals called "dots" and "dashes") as different sounds by using **`Console.Beep(Int32, Int32)`**
  - code SOS by Morse code
  - note that it is nessary **`using System.Treading`** for **`Thread.Sleep(n);`**

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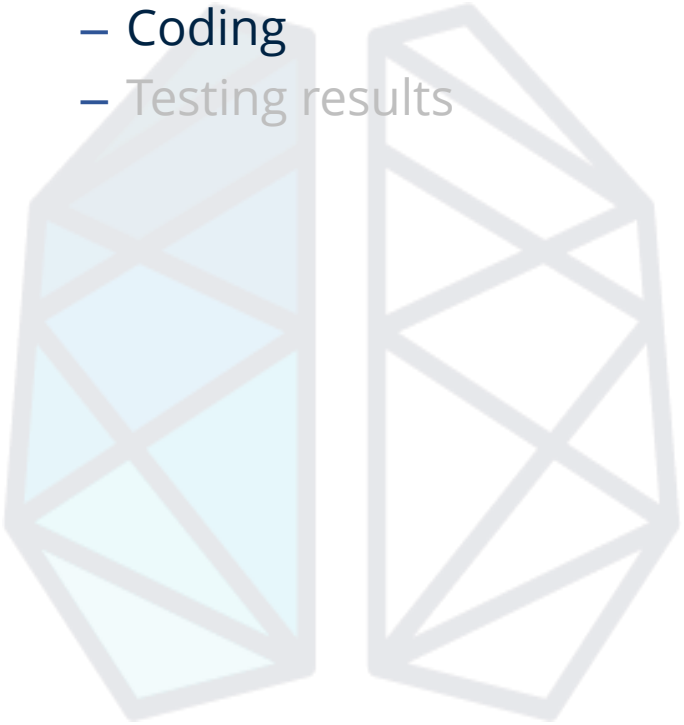

General information (1/2)

- For the present as binary string use the next code

```
int hldr;
a_str = "";
int a;
while (a > 0)
{
   hldr = a % 2;
   a_str += hldr;
   a = a / 2;
}
```

- For the string reversing use transform string to chararray and `Array.Reverse` method

General information (2/2)

- To change font color please use `Console.ForegroundColor = ConsoleColor.Yellow;`
  - Colors: `Yellow, Blue, Red, Magenta`
- To cut the substring from the use `Replace` method
- To dell the symbol from the string use `Trim` method

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