

**Sofia University**  
**Department of Mathematics and Informatics**

**Course :** OO Programming C#.NET

**Date:** October 15, 2022

**Student Name:**

**Домашно 2**

Submit the all C# .NET files developed to solve the problems listed below. Use comments and Modified-Hungarian notation.

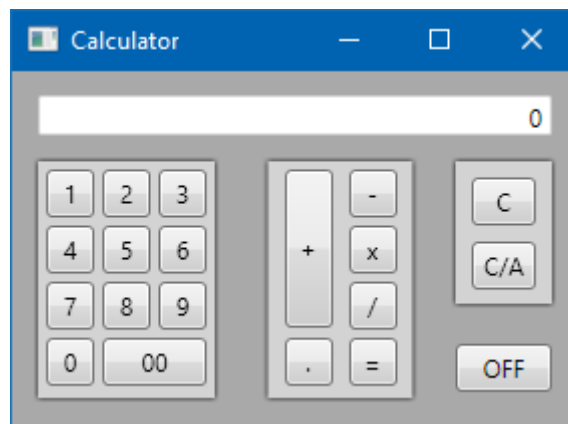
**Problem No. 1**

Write a **WPF application** to implement the **functions** and **user interface** of a **calculator**

i.e. there should be:

- a) all the arithmetic operations
- b) memory store, clear, add, subtract
- c) mathematical functions for  $EXP()$ ,  $SIN()$ ,  $COS()$ ,  $SQRT()$ ,  $LOG()$  and  $1/x$

Make use of *enum* types to denote arithmetic and memory operations. Accordingly, use these *enum* constants in a switch command to execute the calculator operations.



**Problem No. 2**

Write a **Console application** that computes the value of  $\cos(x)$  by using the formula:

$$\cos(x) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + \dots$$

with accuracy  $0 < \varepsilon < 1$  provided as user input. Compare the result with the value returned by the **respective static method** in the **Math** class. Output the approximate and the accurate value, as well as, the given accuracy using formatted numeric output.