Sofia University
Department of Mathematics and Informatics

Course : OO Programming C#.NET
Date: October 15, 2020
Student Name:

Домашно 1

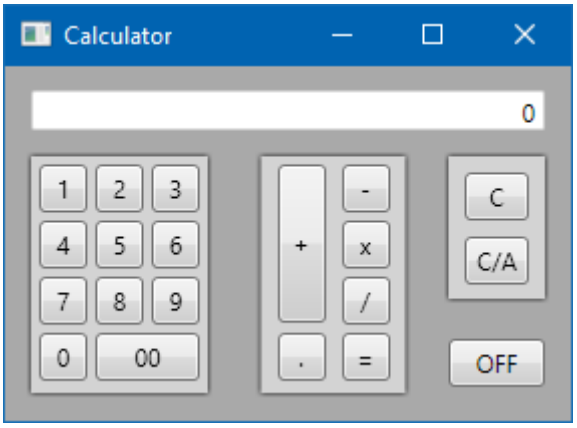
Submit the all C# .NET files developed to solve the problems listed below. Use comments and Modified-Hungarian notation.

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:

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

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.