

The laboratory work 3

1. Create a program whose Main must be like this:

```
public static void Main()
{
    SayHello("John");
    SayGoodbye();
}
```

SayHello and SayGoodbye are functions that you must define and that will be called from inside Main.

2. Create a program whose Main must be like this:

```
public static void Main()
{
    int x= 3;
    int y = 5;
    Console.WriteLine( Sum(x,y) );
}
```

"Sum" is a function that you must define and that will be called from inside Main. As you can see in the example, it must accept two integers as parameters, and it must return an integer number (the sum of those two numbers).

3. Create a C# program to calculate the sum of the elements in an array. "Main" should be like this:

```
public static void Main()
{ int[] example = {20, 10, 5, 2 };
  Console.WriteLine(
    __"The sum of the example array is {0}", __Sum(example));
}
}
```

4. Create a function named "Double" to calculate and return an integer number doubled. For example. Double(7) should return 14.
5. Create a function named "Swap" to swap the values of two integer numbers, which are passed by reference.

An example of use might be:

```
int x=5, y=3;
Swap(ref x, ref y);
Console.WriteLine("x={0}, y={1}", x, y);
(which should write "x=3, y=5")
```

6. Create a function named "Power" to calculate the result of raising an integer number to another (positive integer) number. It must return another integer number. For example. Power(2,3) should return 8.

Note: You MUST use a repetitive structure, such as "for " or "while", you cannot use Math.Pow.

7. Create a program that uses recursion to calculate a number in the Fibonacci series (in which the first two items are 1, and for the other elements, each one is the sum of the preceding two).
8. Create a function named "IsPrime", which receives an integer number and returns true if it is prime, or false if it is not
9. Create a function which returns the greatest value stored in an array of real numbers which is specified as parameter:

```
float[] data={ 1.5f, 0.7f, 8.0f}  
float max = Maximum(data);
```

10. Create an iterative function to say whether a string is symmetric (a palindrome). For example, "RADAR" is a palindrome.