TECNOLÓGICO NACIONAL DE MÉXICO CAMPUS REYNOSA

TEMA: UNIDAD 3

DOCENTE: MIRIAM PUENTE JIMENEZ

MATERIA: PROGRAMACIÓN BÁSICA
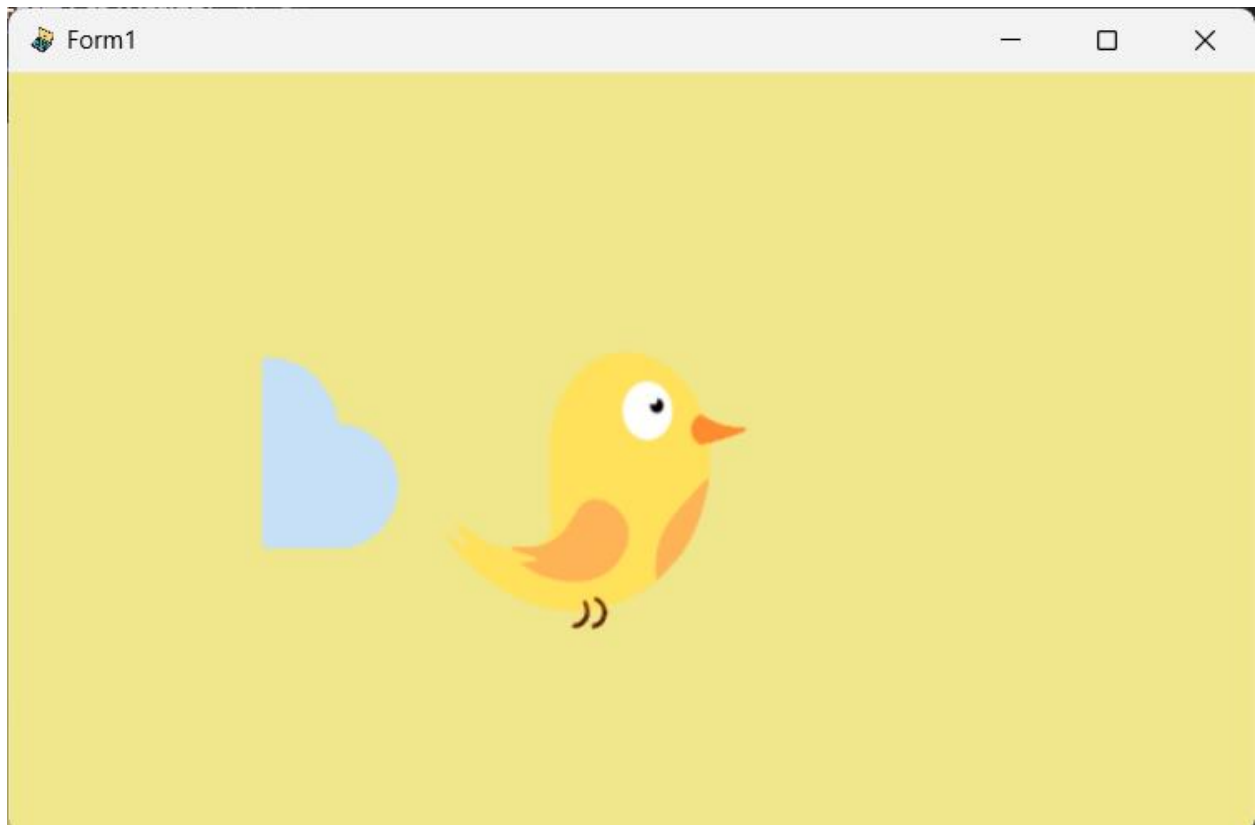
ALUMNO: FERNANDO RAMOS COTA

NUMERO DE CONTROL: 24580111

FECHA DE ENTREGA: 04 DE ABRIL DE 2025
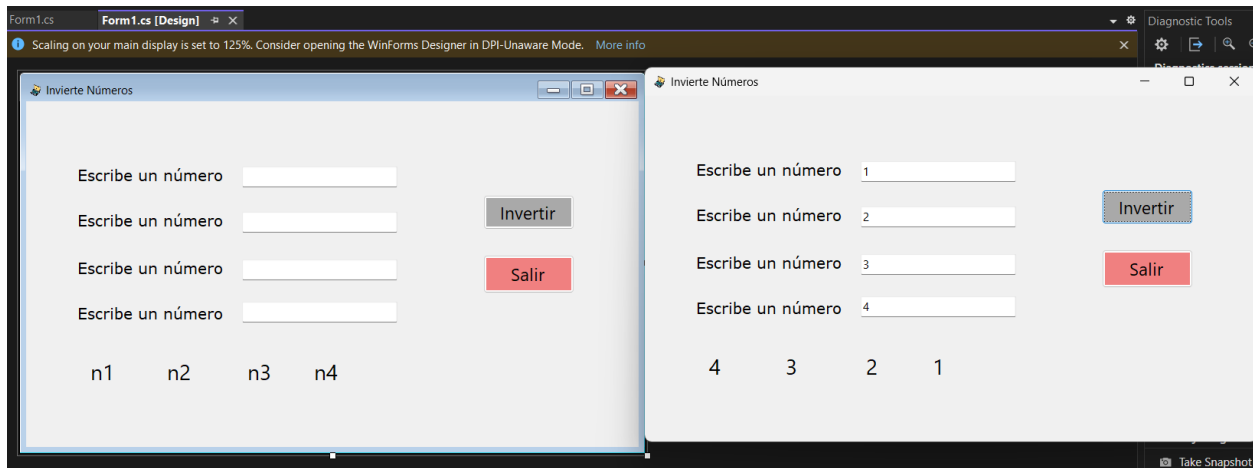
INGENIERIA MECATRÓNICA

Practica 1 Gif animado

# Practica 2 Invierte datos

```
Practica 2 Invierte Datos                    Practica_2_Invierte_Datos.Form1          textBox4_TextChanged(object sender, EventArgs e)
    3       public partial class Form1 : Form
    4       {
    5           public Form1()
    6           {
    7               InitializeComponent();
    8           }
    9
            1 reference
   10           private void Invertir_Click(object sender, EventArgs e)
   11           {
   12               int a, b, c, d;
   13               a = int.Parse(textBox1.Text);
   14               b = int.Parse(textBox2.Text);
   15               c = int.Parse(textBox3.Text);
   16               d = int.Parse(textBox4.Text);
   17               label5.Text = d.ToString();
   18               label6.Text = c.ToString();
   19               label7.Text = b.ToString();
   20               label8.Text = a.ToString();
   21
   22           }
   23
            1 reference
   24           private void button2_Click(object sender, EventArgs e)
   25           {
   26               Application.Exit();
   27           }
   28
            1 reference
   29           private void textBox4_TextChanged(object sender, EventArgs e)
   30           {
   31
   32           }
```

Scaling on your main display is set to 125%. Consider opening the WinForms Designer in DPI-Unaware Mode.   More info

Invierte Números

Escribe un número       [          ]              Invertir

Escribe un número       [          ]

Escribe un número       [          ]              Salir

Escribe un número       [          ]

   n1      n2      n3      n4

Invierte Números

Escribe un número       [1         ]

Escribe un número       [2         ]              Invertir

Escribe un número       [3         ]              Salir

Escribe un número       [4         ]

      4       3       2       1

Practica 3 Suma 2 números



```csharp
namespace Practica_3_Suma_2_Numeros
{
    3 references
    public partial class Form1 : Form
    {
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void suma_Click(object sender, EventArgs e)
        {
            int num1 = Int32.Parse(textBox1.Text);
            int num2 = Int32.Parse(textBox2.Text);
            int sum = num1 + num2;
            label3.Text = "Sum = " + sum;
        }
    }
}
```

Práctica 4 Cilindro



```csharp
            private void button1_Click(object sender, EventArgs e)
            {
                double Radius, Height;
                double BaseArea, LateralArea, TotalArea;
                double Volume;
                Radius = double.Parse(textBox1.Text);
                Height = double.Parse(textBox2.Text);

                BaseArea = Radius * Radius * Math.PI;
                LateralArea = 2 * Math.PI * Radius * Height;
                TotalArea = 2 * Math.PI * Radius * (Height + Radius);
                Volume = Math.PI * Radius * Radius * Height;

                textBox3.Text = BaseArea.ToString("0.##");
                textBox4.Text = LateralArea.ToString("0.##");
                textBox6.Text = TotalArea.ToString("0.##");
                textBox5.Text = Volume.ToString("0.##");

            }

            private void label6_Click(object sender, EventArgs e)
            {

            }

            private void button3_Click(object sender, EventArgs e)
            {
                Application.Exit();
            }
```

Práctica 5 Área triángulo

```csharp
namespace Practica_5_Area_Triangulo
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void label2_Click(object sender, EventArgs e)
        {

        }

        private void button1_Click(object sender, EventArgs e)
        {
            float valor1 = float.Parse(textBox1.Text);
            float valor2 = float.Parse(textBox2.Text);
            float valor3 = valor1 * valor2 / 2;
            textBox3.Text = valor3.ToString();
        }
    }
}
```

Form1.cs     **Form1.cs [Design]**     ⊞ ✕

ℹ Scaling on your main display is set to 125%. Consider opening the WinForms Designer in DPI-Unaware Mode.   More info

Form1

## Area del Triangulo

**Base**

**Altura**

**Area**

Calcular

Form1

## Area del Triangulo

**Base**          25

**Altura**        4

**Area**          50

Calcular

Práctica 6 Conversión Temperatura

```csharp
public partial class Form1 : Form
{

    public Form1()
    {
        InitializeComponent();
    }

    private void button1_Click(object sender, EventArgs e)
    {
        double v1, farh1;
        v1 = double.Parse(textBox1.Text);
        farh1 = v1 * (9.0 / 5.0) + 32;
        textBox2.Text = (farh1.ToString());
        label6.Text = "Fahrenheit";
    }


    private void button2_Click(object sender, EventArgs e)
    {
        double v1, cent1;
        v1 = double.Parse(textBox1.Text);
        cent1 = (v1 - 32) * (5.0 / 9.0);
        textBox2.Text = (cent1.ToString());
        label6.Text = "Celsius";
    }


    private void button3_Click(object sender, EventArgs e)
    {
        textBox2.Text = "";
        label6.Text = "";
    }
```

Form1.cs    Form1.cs [Design]

### Form1

Datos

Ingresa Valor

Opciones de conversion

FARENHEIT       CENTIGRADOS

BORRAR

Resultado en Grados

Equivalente en grados

### Form1

Datos

Ingresa Valor     25

Opciones de conversion

FARENHEIT       CENTIGRADOS

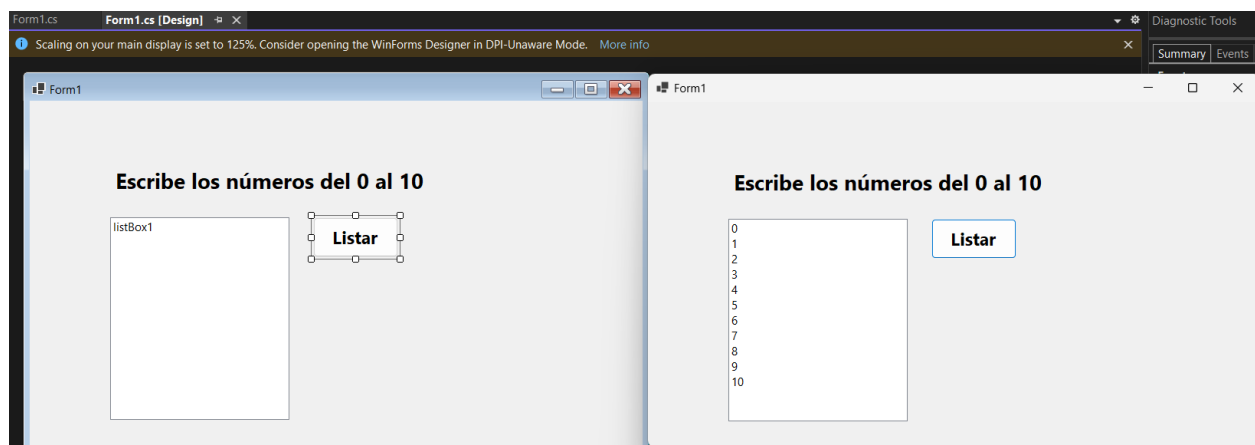BORRAR

Resultado en Grados

Equivalente en grados

77     Fahrenheit

For, while, do 1

```csharp
namespace FWD_1
{
    3 references
    public partial class Form1 : Form
    {
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void button1_ClientSizeChanged(object sender, EventArgs e)
        {

        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            int x = 0;
            do
            {
                listBox1.Items.Add(x);
                x++;
            }
            while (x <= 10);
        }
    }
}
```

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**Escribe los números del 0 al 10**

listBox1     | Listar |

**Escribe los números del 0 al 10**

```
0
1
2
3
4
5
6
7
8
9
10
```
| Listar |

Diagnostic Tools
Summary | Events

For, while, do 2

```
 94            ResumeLayout(false);
 95            PerformLayout();
 96
 97        }
 98
              1 reference
 99        private void button1_Click(object sender, EventArgs e)
100        {
101            int n, count = 0, limite;
102            n = int.Parse(textBox1.Text);
103            limite = int.Parse(textBox2.Text);
104            do
105            {
106                listBox1.Items.Add(n + " * " + count + "=" + n * count);
107                    count++;
108
109            }
110            while (count <= limite);
111        }
112    }
113 }
114
```

For, while, do 3

```csharp
10
11  namespace FWD_3
12  {
        3 references
13      public partial class Form1: Form
14      {
15          float f_num, Total = 0;
            1 reference
16          public Form1()
17          {
18              InitializeComponent();
19          }
20
            1 reference
21          private void button1_Click(object sender, EventArgs e)
22          {
23              listBox1.Items.Add(textBox1.Text);
24              f_num = float.Parse(textBox1.Text);
25              Total += f_num;
26              textBox1.Text = "";
27              textBox1.Focus();
28          }
29
            1 reference
30          private void button2_Click(object sender, EventArgs e)
31          {
32              textBox2.Text = Total.ToString();
33          }
34      }
35  }
```
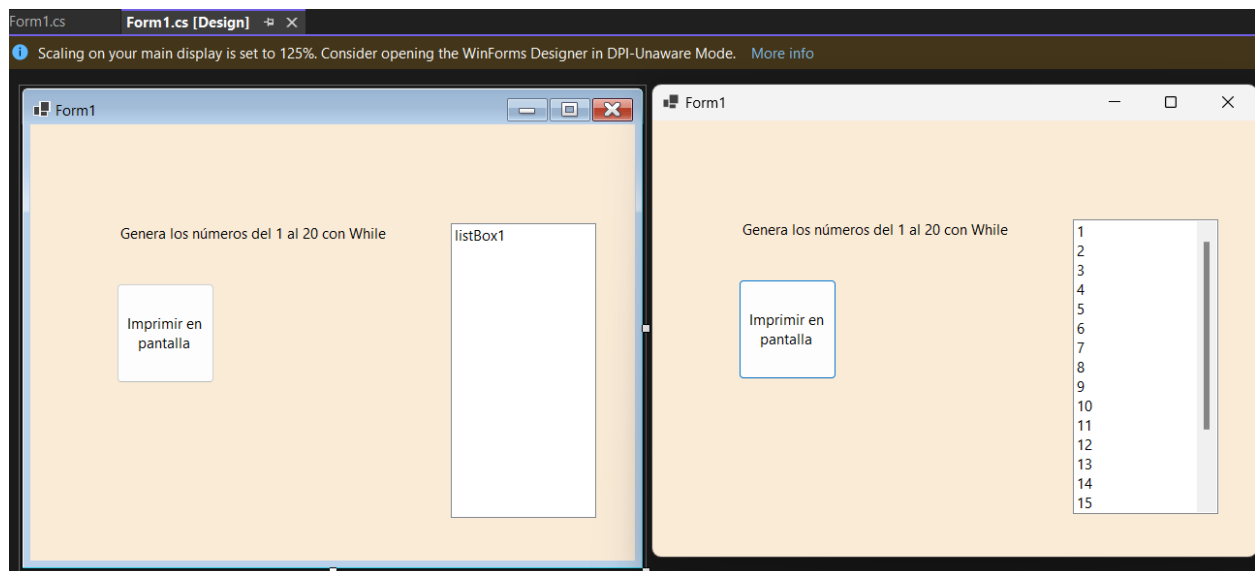
**Form1**

Este programa suma los numeros capturados

Introduce un Numero:

Añadir

Sumar
Numeros

La suma de todos
los numeros son:

listBox1

---

**Form1**

Este programa suma los numeros capturados

Introduce un Numero:

Añadir

Sumar
Numer

La suma de todos
los numeros son:

15

```
1
2
3
4
5
```

For, while, do 4



```csharp
namespace FWD_4
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            int a = 1;
            while (a <= 20)
            {
                listBox1.Items.Add(a);
                a++;
            }
        }
    }
}
```

For, while, do 5

```csharp
namespace FWD_5
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void label2_Click(object sender, EventArgs e)
        {

        }

        private void button1_Click(object sender, EventArgs e)
        {
            int numero = int.Parse(textBox1.Text);
            if (numero % 2 == 0)
            {
                listBox1.Items.Add(numero + " Par");
            }
            else
            {
                listBox1.Items.Add(numero + " Impar");
            }
        }
    }
}
```
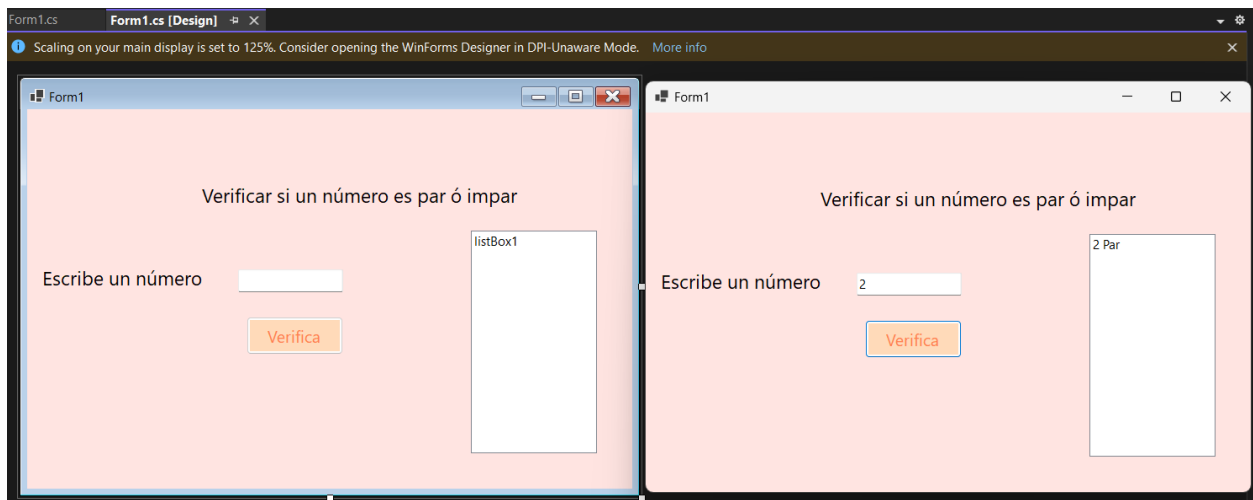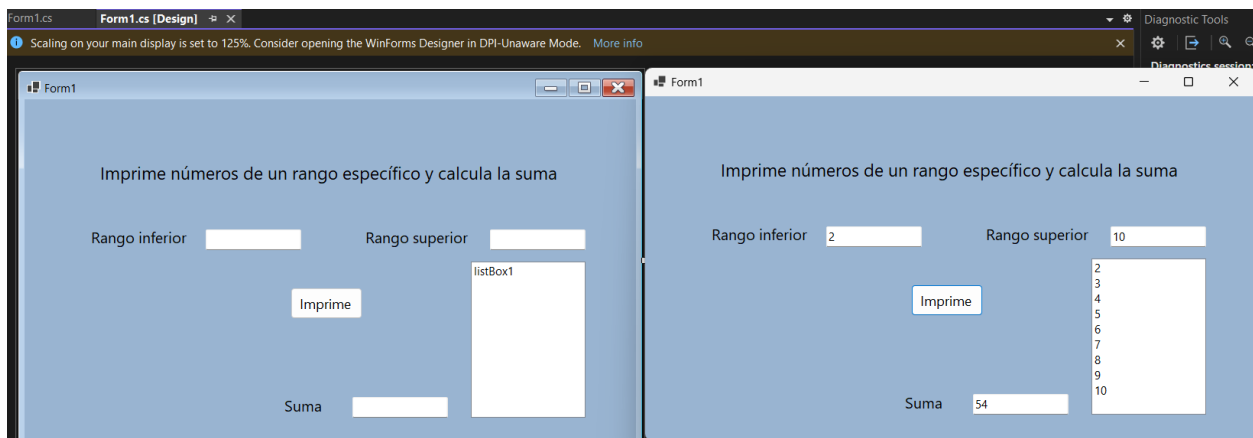
For, while, do 6

```csharp
namespace FWS_6
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            int rangoinferior, rangosuperior, suma = 0;
            rangoinferior = int.Parse(textBox1.Text);
            rangosuperior = int.Parse(textBox2.Text);
            listBox1.Items.Clear();
            for (int i = rangoinferior; i <= rangosuperior; i++)
            {
                listBox1.Items.Add(i);
                suma = suma+ i;
            }
            textBox3.Text = suma.ToString();
        }
    }
}
```

Scaling on your main display is set to 125%. Consider opening the WinForms Designer in DPI-Unaware Mode.   More info

**Form 1**

Imprime números de un rango específico y calcula la suma

Rango inferior [      ]          Rango superior [      ]

                        [ Imprime ]            listBox1

                    Suma [      ]

**Form 2**

Imprime números de un rango específico y calcula la suma

Rango inferior [ 2 ]          Rango superior [ 10 ]

                        [ Imprime ]            2
                                              3
                                              4
                                              5
                                              6
                                              7
                                              8
                                              9
                                              10
                    Suma [ 54 ]

For, while, do 8



```
namespace FWD_8
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            for (int i = 1; i <= 5; i++) {
                listBox1.Items.Add(i);
            }
        }
    }
}
```
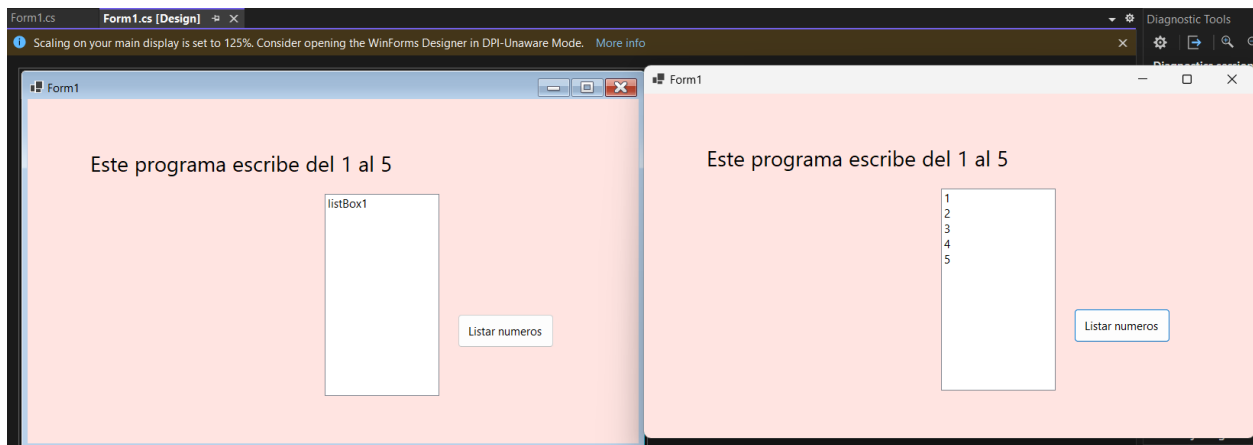
For, while, do 9
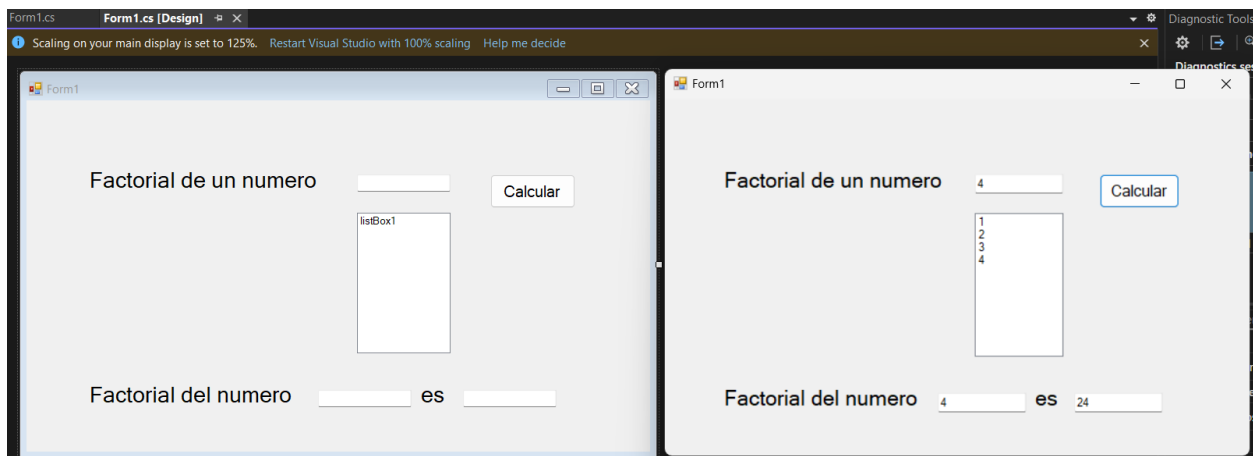
```csharp
        using System.Windows.Forms;

        namespace FWD_9
        {
            3 references
            public partial class Form1: Form
            {
                1 reference
                public Form1()
                {
                    InitializeComponent();
                }

                1 reference
                private void button1_Click(object sender, EventArgs e)
                {
                    int numero = int.Parse(textBox1.Text);
                    int factorial = 1;
                    for (int i = 1; i <= numero; i++)
                    {
                        listBox1.Items.Add(i);
                        factorial *= i;
                    }
                    textBox2.Text = numero.ToString();
                    textBox3.Text = factorial.ToString();
                }
            }
        }
```

Factorial de un numero      [        ]      [ Calcular ]

listBox1

Factorial del numero   [        ] es [        ]

Factorial de un numero   4    [ Calcular ]

1
2
3
4

Factorial del numero   4   es   24

For, while, do 10

```
namespace FWD_10
{

    public partial class Form1 : Form
    {

        public Form1()
        {
            InitializeComponent();
        }


        private void button1_Click(object sender, EventArgs e)
        {
            int i, cua, cub, zeta;
            for (i = 1; i <= 50; i++)
            {
                cua = i * i;
                cub = i * i * i;
                zeta = cua + cub;
                listBox1.Items.Add(i);
                listBox2.Items.Add(cua);
                listBox3.Items.Add(cub);
                listBox4.Items.Add(zeta);
            }
        }


        private void label4_Click(object sender, EventArgs e)
        {

        }
    }
}
```

For, while, do 11

```csharp
       1 reference
12     private void button1_Click(object sender, EventArgs e)
13     {
14         for (int x = 0; x < 10; x++)
15         {
16             listBox1.Items.Add(x);
17             double fx = x / (1.0 + x * x);
18             listBox2.Items.Add(fx);
19         }
20     }
21

       1 reference
22     private void button2_Click(object sender, EventArgs e)
23     {
24         int x1 = 1;
25         while (x1 <= 10)
26         {
27             listBox1.Items.Add(x1);
28             double fx = x1 / (1.0 + x1 * x1);
29             listBox2.Items.Add(fx);
30             x1++;
31         }
32     }
33

       1 reference
34     private void button3_Click(object sender, EventArgs e)
35     {
36         int x2 = 1;
37         do
38         {
39             listBox1.Items.Add(x2);
40             double fx = x2 / (1.0 + x2 * x2);
41             listBox2.Items.Add(fx);
42             x2++;
43         } while (x2 <= 10);
44     }
```

Form1.cs     Form1.cs [Design]   ⊣ ✕                                    ▼ ✱  Diagnostic Tools
ⓘ  Scaling on your main display is set to 125%. Consider opening the WinForms Designer in DPI-Unaware Mode.  More info      ✕
                                                                             Diagnostics session:

Form1

$$f(x) = \frac{X}{1 + x^2}$$

x          f(x) =
listBox1   listBox2

[ for ]
[ while ]
[ do whiile ]
[ salir ]

Form1

$$f(x) = \frac{X}{1 + x^2}$$

x          f(x) =

| x | f(x) |
|---|------|
| 0 | 0 |
| 1 | 0.5 |
| 2 | 0.4 |
| 3 | 0.3 |
| 4 | 0.235294117 |
| 5 | 0.192307692 |
| 6 | 0.162162162 |

[ for ]
[ while ]
[ do whiile ]
[ salir ]

Estructura selectiva 12

```csharp
namespace ES_12
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            double cal;
            cal = double.Parse(textBox1.Text);
            if (cal < 3.0) MessageBox.Show("REPROBADO");
        }
    }
}
```

Estructura selectiva 13

```csharp
namespace ES_13
{
    3 references
    public partial class Form1 : Form
    {
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            double sueldo, aum, nsue;
            sueldo = double.Parse(textBox1.Text);
            if (sueldo < 400000.00)
            {
                aum = sueldo * 0.15;
                nsue = sueldo + aum;
                textBox2.Text = nsue.ToString();
            }
        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            textBox2.Clear();
        }
    }
}
```

Scaling on your main display is set to 125%. Consider opening the WinForms Designer in DPI-Unaware Mode.   More info

**Form1**

Dado como dato el sueldo
de un trabador, el programa
aplica un aumento del 15%
si el sueldo es inferior a 400000

Ingresar sueldo

Decisión                    Borrar

Nuevo sueldo

**Form1**

Dado como dato el sueldo
de un trabador, el programa
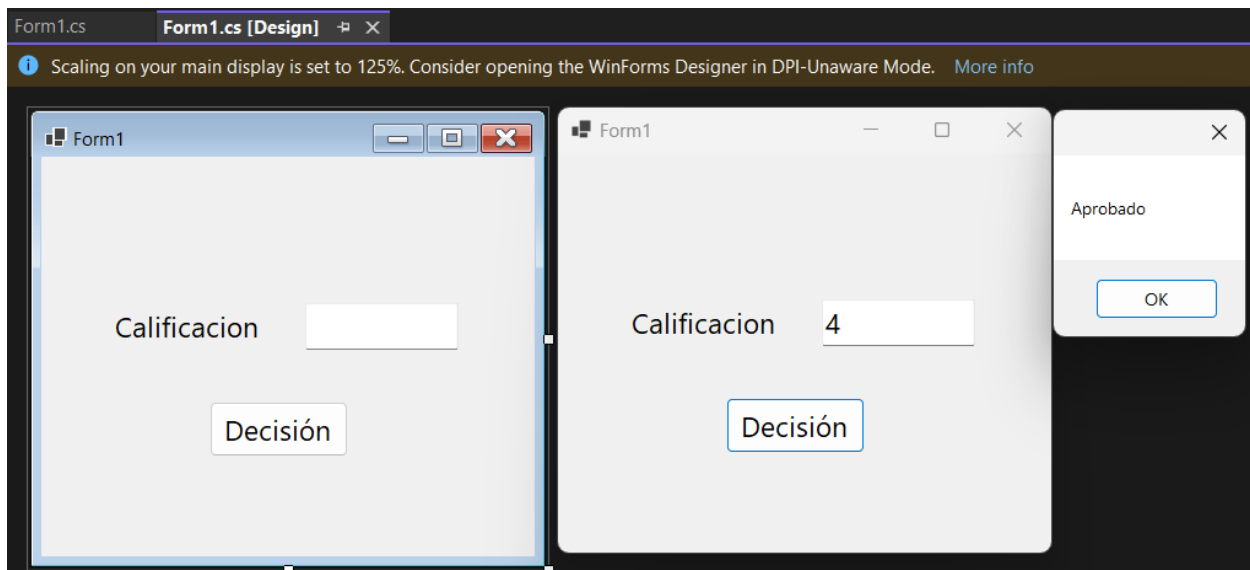aplica un aumento del 15%
si el sueldo es inferior a 400000

Ingresar sueldo          39999

Decisión                    Borrar

Nuevo sueldo            45998.85

Estructura selectiva 14



```
namespace ES_14
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            double cal;
            cal = double.Parse(textBox1.Text);
            if (cal < 3.0) MessageBox.Show("Reprobado"); else MessageBox.Show("Aprobado");
        }
    }
}
```

Estructura selectiva 15

```csharp
namespace ES_15
{
    3 references
    public partial class Form1 : Form
    {
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void Form1_Load(object sender, EventArgs e)
        {

        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            double sueldo, nsue;
            sueldo = double.Parse(textBox1.Text);
            if (sueldo < 400000.00) nsue = sueldo * 1.15;
            else nsue = sueldo * 1.08;
            textBox2.Text = nsue.ToString();
        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            textBox1.Clear();
            textBox2.Clear();
        }
    }
}
```

Scaling on your main display is set to 125%. Consider opening the WinForms Designer in DPI-Unaware Mode.   More info

**Form1**

Dado como dato el sueldo de un trabajador, el programa aplica un aumento del 15% si el sueldo es inferior a 40000

Ingresar Sueldo

Calcular          Borrar

Nuevo Sueldo

**Form1**

Dado como dato el sueldo de un trabajador, el programa aplica un aumento del 15% si el sueldo es inferior a 40000

Ingresar Sueldo    41000

Calcular          Borrar

Nuevo Sueldo      47149.99999

Estructura selectiva 16



```
namespace ES_16
{
    3 references
    public partial class Form1 : Form
    {
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            int num;
            num = int.Parse(textBox1.Text);
            if (num % 2 == 0) MessageBox.Show("EL NUMERO ES PAR");
            else if (num % 3 == 0) MessageBox.Show("EL NUMERO ES IMPAR Y DIVISIBLE POR 3");
            else MessageBox.Show("EL NUMERO ES IMPAR Y NO ES DIVISIBLE POR 3");
        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            textBox1.Clear();
        }
    }
}
```
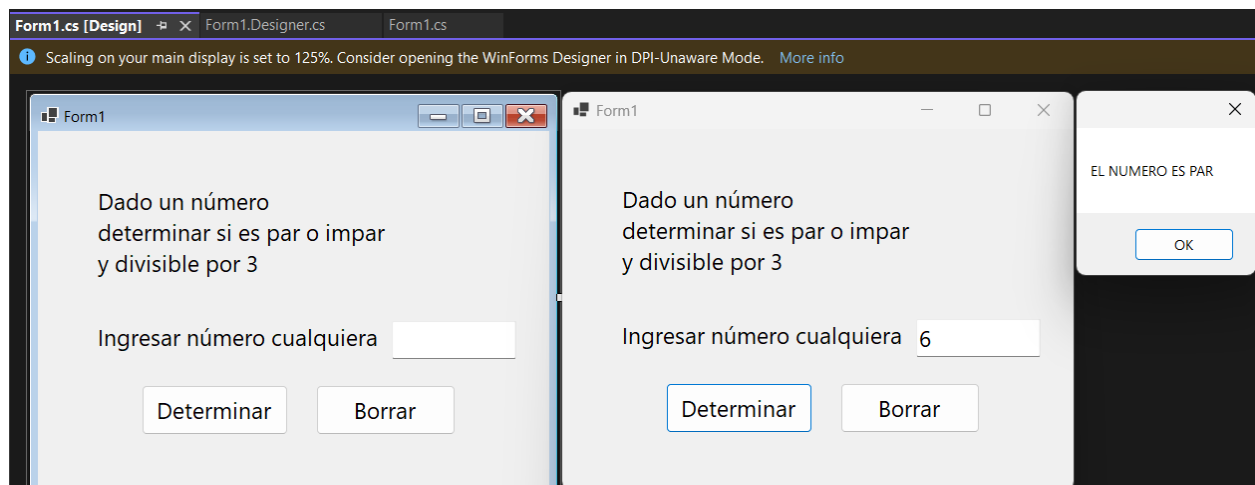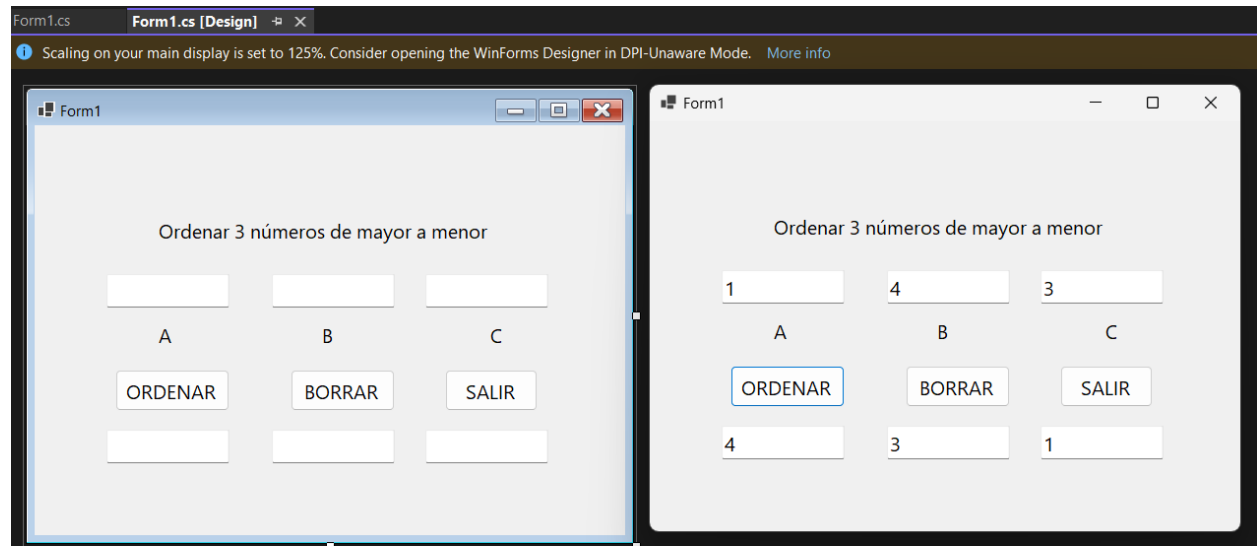
# Estructura selectiva 17

```csharp
        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            int A, B, C;
            A = int.Parse(textBox1.Text);
            B = int.Parse(textBox2.Text);
            C = int.Parse(textBox3.Text);
            if (A > B)
                if (B > C)
                    if (B > C)
                    {
                        textBox4.Text = A.ToString();
                        textBox5.Text = B.ToString();
                        textBox6.Text = C.ToString();
                    }
                    else
                    {
                        textBox4.Text = A.ToString();
                        textBox5.Text = C.ToString();
                        textBox6.Text = B.ToString();
                    }
                else
                {
                    textBox4.Text = C.ToString();
                    textBox5.Text = A.ToString();
                    textBox6.Text = B.ToString();
                }
            else
                if (B > C)
                    if (A > C)
                    {
                        textBox4.Text = B.ToString();
                        textBox5.Text = A.ToString();
                        textBox6.Text = C.ToString();
```

```csharp
                        textBox4.Text = B.ToString();
                        textBox5.Text = A.ToString();
                        textBox6.Text = C.ToString();
                    }
                    else
                    {
                        textBox4.Text = B.ToString();
                        textBox5.Text = C.ToString();
                        textBox6.Text = A.ToString();
                    }
                else
                {
                    textBox4.Text = C.ToString();
                    textBox5.Text = B.ToString();
                    textBox6.Text = A.ToString();
                }
        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            textBox1.Clear();
            textBox2.Clear();
            textBox3.Clear();
            textBox4.Clear();
            textBox5.Clear();
            textBox6.Clear();

        }

        1 reference
        private void button3_Click(object sender, EventArgs e)
        {
            Application.Exit();
        }
    }
```

**Form1**

Ordenar 3 números de mayor a menor

| | | |
|---|---|---|
| A | B | C |

ORDENAR    BORRAR    SALIR

---

**Form1**

Ordenar 3 números de mayor a menor

| 1 | 4 | 3 |
|---|---|---|
| A | B | C |

ORDENAR    BORRAR    SALIR

| 4 | 3 | 1 |
|---|---|---|

Estructura selectiva 18

ES 18     ES_18.Form1     button3_Click(object sender, EventArgs e)

```csharp
        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            double lado1, lado2, lado3;
            lado1 = double.Parse(textBox1.Text);
            lado2 = double.Parse(textBox2.Text);
            lado3 = double.Parse(textBox3.Text);
            if ((lado1 == lado2) && (lado2 == lado3))
                textBox4.Text = "Equilatero";
            else
            if ((lado1 == lado2) || (lado1 == lado3) || (lado2 == lado3))
                textBox4.Text = "Isosceles";
            else textBox4.Text = "Escaleno";

        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            textBox1.Clear();
            textBox2.Clear();
            textBox3.Clear();
            textBox4.Clear();
        }

        1 reference
        private void button3_Click(object sender, EventArgs e)
        {
            Application.Exit();
        }
    }
}
```
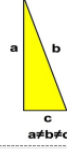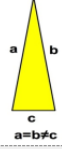
Form1

Longitud lado A

Longitud lado B

Longitud lado C

Decision    Borrar    Salir

Tipo Triangulo

Form1

Longitud lado A   1

Longitud lado B   2

Longitud lado C   3

Decision    Borrar    Salir

Tipo Triangulo   Escaleno