Cruz Oviedo Diego
Técnicas de Programación
Grupo 2

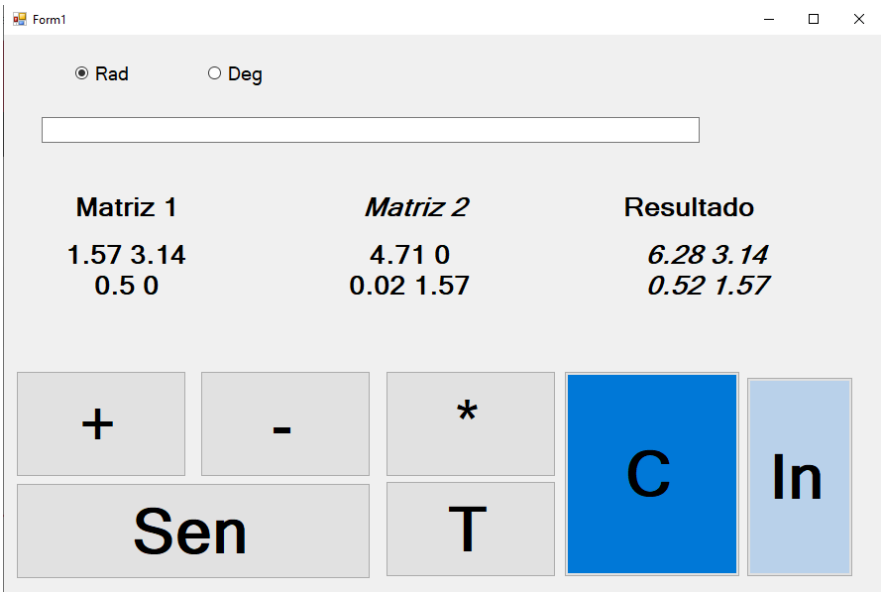
```
using System;
using System.Windows.Forms;

namespace FormMultidimensional
{
   public partial class Form1 : Form
   {
      private bool Intro = true;
      private Multidimensional m1;
      private Multidimensional m2;
      private Multidimensional m3;
      private Multidimensional m4;


      public Form1()
      {
         InitializeComponent();
      }

      private void btnIntro_Click(object sender, EventArgs e)
      {
         if (Intro)
         {
            m1 = Multidimensional.Leer(txtbDisplay.Text);
            lbMatriz1.Text = m1.ToString();
            Intro = false;

         }
         else
         {
            m2 = Multidimensional.Leer(txtbDisplay.Text);
            lbMatriz2.Text = m2.ToString();
            Intro=true;
         }
         txtbDisplay.Clear();


      }

      private void btnSuma_Click(object sender, EventArgs e)
      {

         m3 = m1 + m2;
         lbResultado.Text = m3.ToString();
      }

      private void btnRestar_Click(object sender, EventArgs e)
      {

         m3 = m1 - m2;
         lbResultado.Text = m3.ToString();
      }

      private void btnMultiplicar_Click(object sender, EventArgs e)
      {
         m3 = m1 * m2;
         lbResultado.Text = m3.ToString();
      }
```

```
        private void btnSen_Click(object sender, EventArgs e)
        {
            if (rdbDeg.Checked)
            {
                MessageBox.Show("Seleccionaste Deg");
            }
            m4 =~m3;
            lbResultado.Text = m4.ToString();
        }
    }
}
```

```
using System;
using System.Runtime.Remoting.Messaging;

namespace FormMultidimensional
{
    //Se hereda
    internal class Multidimensional : Matriz
    {
        float[,] A;

        public Multidimensional(int M, int N)
        {

            this.N = N;
            this.M = M;
            A = new float[this.M, this.N];

        }

        public static Multidimensional Leer(string A)
        {
            //Matriz A ingresada
            //1,2;3,4 Matriz ingresada Ejemplo

            string[] renglones = A.Split(';');

            //renglones [0] = 1,2
            //renglones [1] = 3,4

            string[] columnas = renglones[0].Split(',');

            Multidimensional m1 = new Multidimensional(renglones.Length, columnas.Length);

            for (int i = 0; i < m1.M; i++)
            {
                columnas = renglones[i].Split(',');
                for (int j = 0; j < m1.N; j++)
                {
                    m1.A[i, j] = float.Parse(columnas[j]);
                }
            }
```

```
    return m1;

}

public static Multidimensional operator +(Multidimensional m1, Multidimensional m2)
{
    Multidimensional m3 = new Multidimensional(m1.M, m1.N);

    for(int i = 0; i< m1.M; i++)
    {
        for (int j = 0; j < m1.N; j++)
        {
            m3.A[i, j] = m1.A[i, j] + m2.A[i, j];
        }
    }
    return m3;
}
#region Resta
public static Multidimensional operator -(Multidimensional m1, Multidimensional m2)
{
    Multidimensional m3 = new Multidimensional(m1.M, m1.N);

    for (int i = 0; i < m1.M; i++)
    {
        for (int j = 0; j < m1.N; j++)
        {
            m3.A[i, j] = m1.A[i, j] - m2.A[i, j];
        }
    }
    return m3;
}
#endregion

#region MULTIPLICACIÓN
public static Multidimensional operator *(Multidimensional m1, Multidimensional m2)
{
    Multidimensional m3 = new Multidimensional(m1.M, m1.N);

    for (int i = 0; i < m1.M; i++)
    {
        for (int j = 0; j < m2.N; j++)
        {
            for (int k = 0; k < m1.N; k++)
            {
                m3.A[i, j] += m1.A[i, k] * m2.A[k, j];
            }
        }
    }
    return m3;
}
#endregion

#region SENO
public static Multidimensional operator ~(Multidimensional m3)
{
    Multidimensional m4 = new Multidimensional(m3.M, m3.N);
```

```
            for (int i = 0; i < m3.M; i++)
            {
                for (int j = 0; j < m3.N; j++)
                {
                    m4.A[i, j] = (float)Math.Sin(m3.A[i, j]);
                }
            }

            return m4;
        }
        #endregion


        public override string ToString()
        {
            // 1 2
            // 3 4

            string A = "";

            for (int i = 0; i < M; i++)
            {
                for (int j = 0; j < N; j++)
                {
                    A = A + " " + this.A[i, j].ToString();
                }
                A += "\n";
            }

            return A;
        }


    }
}
```



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