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// example 12 - a complete program using a class
// The example is for a class that represents a box
using System;

class Program
{
    static void Main()
    {
        // create a Box object and use setters
        Box hatBox = new Box();
        hatBox.SetHeight(5);
        hatBox.SetWidth(2);
        hatBox.SetLength(3);

        // use getters
        Console.WriteLine("The dimensions of the hat box are: {0} x {1} x {2}",
            hatBox.GetHeight(), hatBox.GetWidth(), hatBox.GetLength());

        // use the data manipulation method
        Console.WriteLine("The volume of this box is {0}", hatBox.CalcVolume());
        Console.ReadLine();

    }
}

// Box class definition
// represents a Box of some kind
class Box
{
    private int width;
        private int height;
        private int length;

    // ------------------ Constructors ----------------------------

    // the default constructor
    // purpose: initialize all values to zero
    // Parameters: none
    // Returns: none
    public Box( )
    {
        length = 0;
        height = 0;
        width = 0;
    }

    // the parameterized constructor
    // purpose: initialize all values
    // Parameters: the width (p1), height (p2) and width (p3) of the box
    // Returns: none
    public Box( int p1, int p2, int p3)
            {
        length = p1;
        height = p2;
        width =  p3;
    }
```

```
//---------------------- Getters ----------------------

// the GetWidth method
// purpose: getter for width
// Parameters: none
// Returns: the width as an integer
public int GetWidth( )
{
    return width;
}

// the GetHeight method
// purpose: getter for height
// Parameters: none
// Returns: the height as an integer
public int GetHeight( )
{
    return height;
}

// the GetLength method
// purpose: getter for length
// Parameters: none
// Returns: the length as an integer
public int GetLength( )
{
    return length;
}

//------------------------ Setters --------------------------

// the SetWidth method
// purpose: setter for width
// Parameters: an integer p1
// Returns: none
public void SetWidth(int p1)
{
    width = p1;
}

// the SetHeight method
// purpose: setter for height
// Parameters: an integer p1
// Returns: none
public void SetHeight(int p1)
{
    height = p1;
}

// the SetLength method
// purpose: setter for length
// Parameters: an integer p1
// Returns: none
public void SetLength(int p1 )
{
    length = p1;
```

```
    }

    //------------------ Data Manipulation Method --------------------
    // the CalcVolume method
    // purpose: calculates and returns the volume of the box
    // Parameters: none
    // Returns: an integer, the calculated volume
    public int CalcVolume()
    {
        return length * height * width;
    }
}
```