1. Write a program to check whether a number given as input is divisible by the sum of its digits.

Write a C# program that takes a number as input and displays a rectangle of 3 columns wide and 5 rows tall using that digit.

Test Data:

Enter a number: 5

Expected Output:

555

5 5

5 5

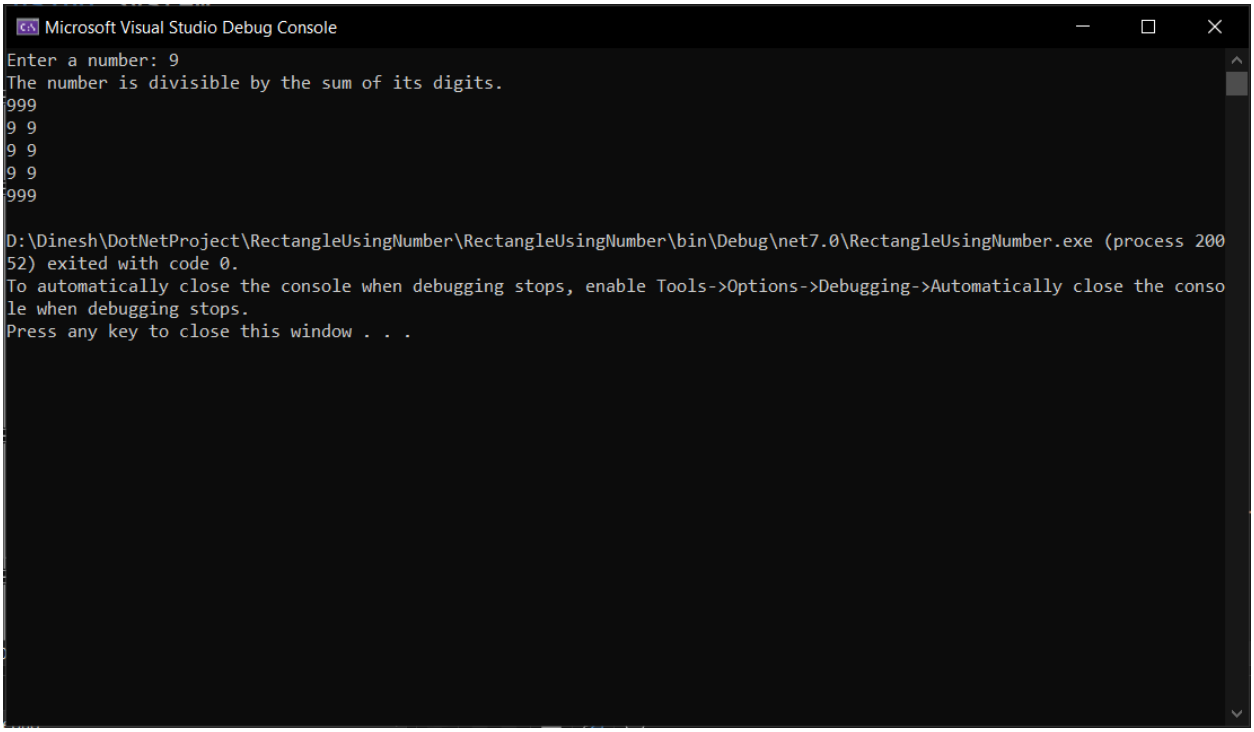
5 5

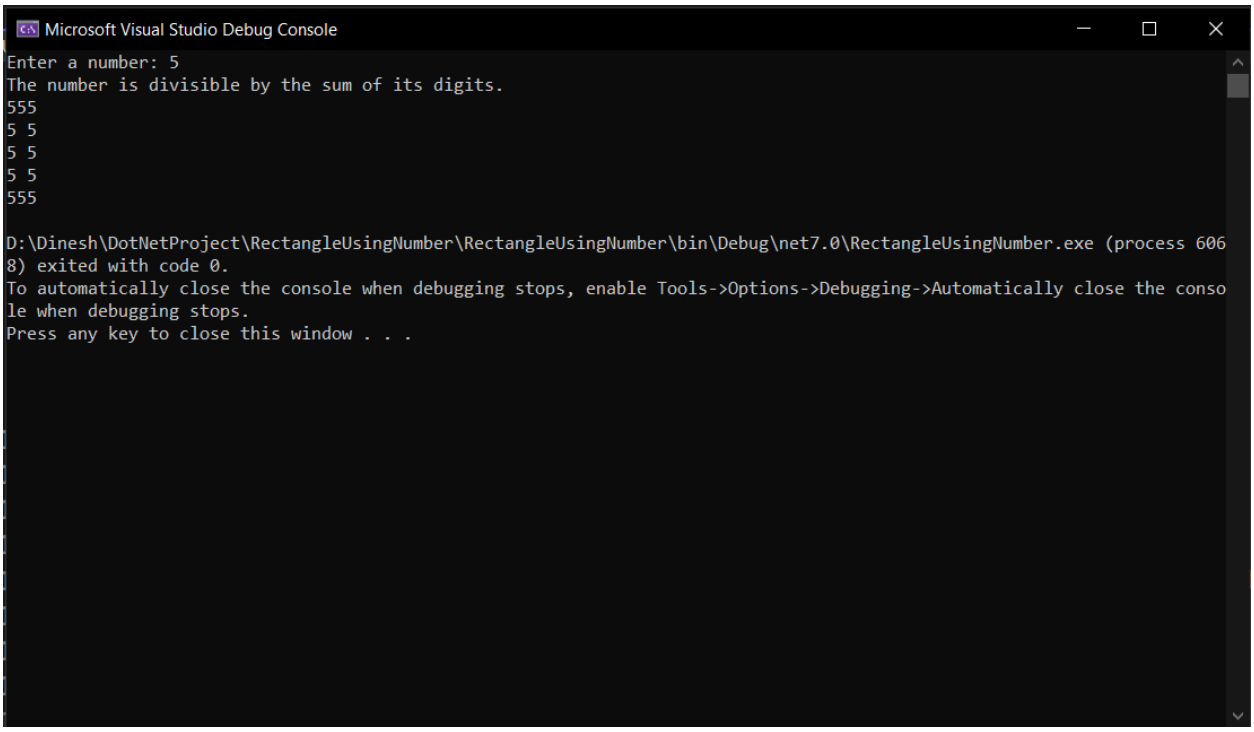
555

```
using System;

class Program
{
    static void Main(string[] args)
    {
        Console.Write("Enter a number: ");
        int number = int.Parse(Console.ReadLine());

        int sumOfDigits = CalculateSumOfDigits(number);

        if (number % sumOfDigits == 0)
        {
            Console.WriteLine("The number is divisible by the sum of its digits.");
        }
        else
        {
            Console.WriteLine("The number is not divisible by the sum of its
digits.");
        }

        DisplayRectangle(number);
    }

    static int CalculateSumOfDigits(int number)
    {
        int sum = 0;
        while (number != 0)
        {
            sum += number % 10;
            number /= 10;
        }
        return sum;
    }
```

```
    static void DisplayRectangle(int number)
    {
        for (int row = 0; row < 5; row++)
        {
            for (int column = 0; column < 3; column++)
            {
                if (row == 0 || row == 4 || column == 0 || column == 2)
                {
                    Console.Write(number);
                }
                else
                {
                    Console.Write(" ");
                }
            }
            Console.WriteLine();
        }
    }
}
```

Output :





2. Create a MVC program for calculating the temperature in Fahrenheit when the temperature is given in Celsius. Display the output using ViewBag.

Model:

```
using System.ComponentModel.DataAnnotations;
using System.Xml.Linq;

namespace TempConverter.Models
{

        public class TempConverterModel
        {
            [Required]
            [Display(Name = "Celsius")]
            public double Celsius { get; set; }

            [Display(Name = "Fahrenheit")]
            public double Fahrenheit { get; set; }
        }

}
```

View:

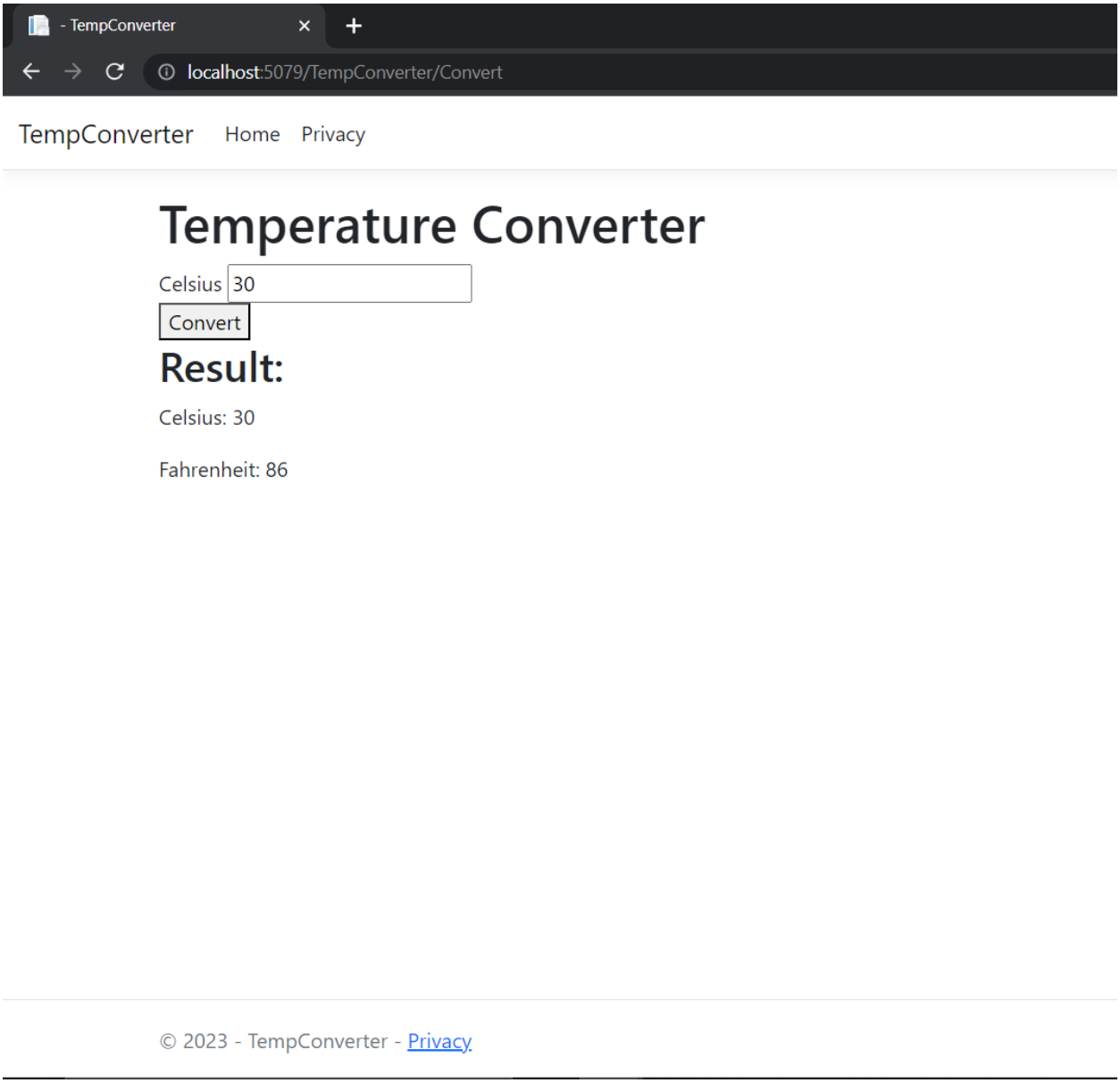
```
@model TempConverter.Models.TempConverterModel
```

```
<h1>Temperature Converter</h1>

@using (Html.BeginForm("Convert", "TempConverter", FormMethod.Post))
{
    <div>
        @Html.LabelFor(model => model.Celsius)
        @Html.TextBoxFor(model => model.Celsius)
        @Html.ValidationMessageFor(model => model.Celsius)
    </div>

    <div>
        <button type="submit">Convert</button>
    </div>
}

@if (ViewBag.Result != null)
{
    <div>
        <h2>Result:</h2>
        <p>Celsius: @ViewBag.Result.Celsius</p>
        <p>Fahrenheit: @ViewBag.Result.Fahrenheit</p>
    </div>
}
```

Controller:

```
using Microsoft.AspNetCore.Mvc;
using TempConverter.Models;

namespace TempConverter.Controllers
{
    public class TempConverterController : Controller
    {
        public IActionResult Index()
        {
            var model = new TempConverterModel();
            return View("Index", model);
        }

        [HttpPost]
        public IActionResult Convert(TempConverterModel model)
        {
            if (ModelState.IsValid)
            {
                model.Fahrenheit = (model.Celsius * 9 / 5) + 32;
                ViewBag.Result = model;
            }

            return View("Index");
        }
    }
}
```

Output on following page :


- TempConverter
localhost:5079/TempConverter/Convert
TempConverter
Home
Privacy
Temperature Converter
Celsius 30
Convert
Result:
Celsius: 30
Fahrenheit: 86
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