IT2030 Assignment 2 Matt Brown

**Custom.css**

body {

padding: 1em;

font-family: Arial, Arial, Helvetica, sans-serif;

}

h1 {

margin-top: 0;

color: navy;

}

label {

display: inline-block;

width: 10em;

padding-right: 1em;

}

div {

margin-bottom: .5em;

}

**HomeController.cs**

public class HomeController : Controller

{

[HttpGet]

public IActionResult Index()

{

ViewBag.FV = 0;

return View();

}

[HttpPost]

public IActionResult Index(FutureValueModel model)

{

if (ModelState.IsValid)

{

ViewBag.FV = model.CalculateFutureValue();

}

else

{

ViewBag.FV = 0;

}

return View(model);

}

}

**FutureValueModel.cs**

namespace FutureValue.Models

{

public class FutureValueModel

{

[Required(ErrorMessage = "Please enter a monthly investment.")]

[Range(1, 500, ErrorMessage = "Monthly investment amount must be between 1 and 500.")]

public decimal? MonthlyInvestment { get; set; }

[Required(ErrorMessage = "Please enter a yearly interest rate.")]

[Range(0.1, 10.0, ErrorMessage = "Yearly interest rate must be between 0.1 and 10.0.")]

public decimal? YearlyInterestRate { get; set; }

[Required(ErrorMessage = "Please enter a number of years.")]

[Range(1, 50, ErrorMessage = "Number of years must be between 1 and 50.")]

public int? Years { get; set; }

public decimal? CalculateFutureValue()

{

int? months = Years \* 12;

decimal? monthlyInterestRate = YearlyInterestRate / 12 / 100;

decimal? futureValue = 0;

for (int i = 0; i < months; i++)

{

futureValue = (futureValue + MonthlyInvestment) \* (1 + monthlyInterestRate);

}

return futureValue;

}

}

}

**Index.cshtml**

@model FutureValueModel

@{

ViewBag.Title = "Future Value Calculator";

}

<h1>Future Value Calculator</h1>

<form asp-action="Index" method="post">

<div asp-validation-summary="All"></div>

<div>

<label asp-for="MonthlyInvestment">Monthly Investment:</label>

<input asp-for="MonthlyInvestment" />

</div>

<div>

<label asp-for="YearlyInterestRate">Yearly Interest Rate:</label>

<input asp-for="YearlyInterestRate" />

</div>

<div>

<label asp-for="Years">Number of Years:</label>

<input asp-for="Years" />

</div>

<div>

<label>Future Value:</label>

<input value="@ViewBag.FV.ToString("c2")" readonly />

</div>

<button type="submit">Calculate</button>

<a asp-action="Index">Clear</a>

</form>

**\_Layout.cshtml**

<!DOCTYPE html>

<html>

<head>

<meta name="viewport" content="width=device-width" />

<title>@ViewBag.Title</title>

<link rel="stylesheet" href="-/css/custom.css" />

</head>

<body>

<div>

@RenderBody()

</div>

</body>

</html>

**\_ViewImports.cshtml**

@using FutureValue.Models

@addTagHelper \*, Microsoft.AspNetCore.Mvc.TagHelpers

**\_ViewStart.cshtml**

@{

Layout = "\_Layout";

}