Text

Description automatically generated

**MS806 – Business Application Programming**

**Student Name: Dilip Venkatesan Sankar**

**NUI Galway ID Number: 22225743**

**Assignment:** **2**

**Date of Submission:** **14/10/2022**

“In submitting this work, I confirm that it is entirely my own. I acknowledge that I may be invited to undertake an online interview if there is any concern in relation to the integrity of my submission.”

**Run time Screenshots of the Application:**

**Graphical user interface, application

Description automatically generated**

***Figure1: Form when the application is triggered***

***Graphical user interface

Description automatically generated***

***Figrure2: Selection details after Course and Location selected with Suite upgrade and Digital Certificate for 1 Attendee (Shows Ghost button as well)***

***Graphical user interface, application

Description automatically generated***

***Figure3: Message box with booking details pops up when Book Button is clicked***

***Graphical user interface, application

Description automatically generated***

***Figure4: Company Summary details shown after the Summary button is Clicked (no discount till now)***

***Graphical user interface, application

Description automatically generated***

***Figure5: Summary shows discount availed as number of participants is greater than 3 and room is upgraded***

***Graphical user interface, application

Description automatically generated***

***Figure6: Error pops up when a negative number is entered in the number of participants text box***

**Source Code:**

**/\* Student Name: Dilip Venkatesan Sankar**

**\* Student ID: 22225743**

**\* Date: 13/10/2022**

**\* Assignment: 2**

**\* Assignment: Create a well-designed application for L2P that allows Sustomers**

**\* to select Programming Courses**

**\*/**

**using** System**.**Drawing**;**

**using** System**.**Text**.**RegularExpressions**;**

**using** System**.**Windows**.**Forms**;**

**namespace** Assignment2CourseSelectionApplication

**{**

**public** **partial** class CourseSelectionMainForm **:** Form

**{**

**public** CourseSelectionMainForm**()**

**{**

InitializeComponent**();**

**}**

//Initializing global variables

const string COURSE1 **=** "C# Fundamentals"**,** COURSE2 **=** "C# Basics for Beginners"**,**

COURSE3 **=** "C# Intermediate"**,** COURSE4 **=** "C# Advanced Topics"**,**

COURSE5 **=** "ASP .NET with C# Part A"**,** COURSE6 **=** "ASP .NET with C# Part B"**;**

const decimal COURSE1DAYS **=** 2m**,** COURSE2DAYS **=** 4m**,** COURSE3DAYS **=** 4m**,**

COURSE4DAYS **=** 2m**,** COURSE5DAYS **=** 5m**,** COURSE6DAYS **=** 5m**;**

const decimal COURSE1FEE **=** 900m**,** COURSE2FEE **=**1500m **,** COURSE3FEE **=**1800m**,**

COURSE4FEE **=**2300m**,** COURSE5FEE **=**1250m**,** COURSE6FEE **=**1250m**;**

const string LOCATION1 **=** "Belmullet"**,** LOCATION2 **=** "Clifden"**,**

LOCATION3 **=** "Cork"**,**LOCATION4 **=** "Dublin"**,**

LOCATION5 **=** "Killarney"**,**

LOCATION6 **=** "Letterkenny"**,**

LOCATION7 **=** "Sligo"**;**

const decimal LOCATION1COST **=** 219.99m**,** LOCATION2COST **=** 119.99m**,**

LOCATION3COST **=** 149.99m**,**

LOCATION4COST **=** 179.99m**,** LOCATION5COST **=** 149.99m**,**

LOCATION6COST **=** 89.99m**,** LOCATION7COST **=** 119.99m**;**

decimal EnrollmentSummary**,** LodgingSummary**,** TotalOptionalValue**,**

OptionalValueSummary**,** TotalValueOfBookingSummary**,**

NumberOfDiscountBookings**,**AverageTransaction**,**

OptPrice**,** DigiPrice**;**

int NoOfAttendeesText**,**IncrementNumberOfTransactions **=** 0**,**

CourseSelectionIndex **=** 0**,**LocationListIndex **=** 0**,**

NumParticipantsInt**;**

string CourseName **=** ""**,** CourseLocation **=** ""**;**

decimal CoursePrice **=** 0m**,** CourseDuration **=** 0m**,**

LocationPrice **=** 0m**,** DiscountPrice **=** 7.5m**,** TotalCostForBooking**,**

OptionalPrice**,** DigitalCertificatePrice**;**

decimal FinalDiscount**,** PercentageCalculation**,** LodgingCost**,**

EnrollmentCost**;**

//Event handler to display the selections

**private** void SelectionDetailsButton\_Click**(object** sender**,** EventArgs e**)**

**{**

//switch case statements to select course and location

**if** **(**CourseSelectionListBox**.**SelectedIndex **!=** **-**1**)**

**{**

**if** **(**LocationListBox**.**SelectedIndex **!=** **-**1**)**

**{**

/\*condition to check if number of participants

\* text box has valid number \*/

**try**

**{**

NumParticipantsInt **=** int**.**Parse**(**AttendeesTB**.**Text**);**

**if** **(**NumParticipantsInt **>** 0**)**

**{**

NoOfAttendeesText **=** int**.**Parse**(**AttendeesTB**.**Text**);**

CourseSelectionIndex **=** CourseSelectionListBox**.**SelectedIndex**;**

LocationListIndex **=** LocationListBox**.**SelectedIndex**;**

**switch** **(**CourseSelectionIndex**)**

**{**

**case** 0**:**

CourseName **=** COURSE1**;** CourseDuration **=** COURSE1DAYS**;**

CoursePrice **=** COURSE1FEE**;** **break;**

**case** 1**:**

CourseName **=** COURSE2**;** CourseDuration **=** COURSE2DAYS**;**

CoursePrice **=** COURSE2FEE**;** **break;**

**case** 2**:**

CourseName **=** COURSE3**;** CourseDuration **=** COURSE3DAYS**;**

CoursePrice **=** COURSE3FEE**;** **break;**

**case** 3**:**

CourseName **=** COURSE4**;** CourseDuration **=** COURSE4DAYS**;**

CoursePrice **=** COURSE4FEE**;** **break;**

**case** 4**:**

CourseName **=** COURSE5**;** CourseDuration **=** COURSE5DAYS**;**

CoursePrice **=** COURSE5FEE**;** **break;**

**case** 5**:**

CourseName **=** COURSE6**;** CourseDuration **=** COURSE6DAYS**;**

CoursePrice **=** COURSE6FEE**;** **break;**

**}**

**switch** **(**LocationListIndex**)**

**{**

**case** 0**:**

CourseLocation **=** LOCATION1**;**

LocationPrice **=** LOCATION1COST**;** **break;**

**case** 1**:**

CourseLocation **=** LOCATION2**;**

LocationPrice **=** LOCATION2COST**;** **break;**

**case** 2**:**

CourseLocation **=** LOCATION3**;**

LocationPrice **=** LOCATION3COST**;** **break;**

**case** 3**:**

CourseLocation **=** LOCATION4**;**

LocationPrice **=** LOCATION4COST**;** **break;**

**case** 4**:**

CourseLocation **=** LOCATION5**;**

LocationPrice **=** LOCATION5COST**;** **break;**

**case** 5**:**

CourseLocation **=** LOCATION6**;**

LocationPrice **=** LOCATION6COST**;** **break;**

**case** 6**:**

CourseLocation **=** LOCATION7**;**

LocationPrice **=** LOCATION7COST**;** **break;**

**}**

/\*Condition to which check if

\*room upgrade radio button is slelected \*/

**if** **(**MasterSuiteRadioButton**.**Checked **==** **true)**

**{**

OptionalPrice **=** 99.99m**;**

**}**

**else** **if** **(**ExecutiveSuiteRadioButton**.**Checked **==** **true)**

**{**

OptionalPrice **=** 69.99m**;**

**}**

**else** **if** **(**JuniorSuiteRadioButton**.**Checked **==** **true)**

**{**

OptionalPrice **=** 49.99m**;**

**}**

**else**

**{**

OptionalPrice **=** 0m**;**

**}**

//Contion to check if check box is selected

**if** **(**DigitalCertificateCheckBox**.**Checked **==** **true)**

**{**

DigitalCertificatePrice **=** 39.99m**;**

**}**

**else**

**{**

DigitalCertificatePrice **=** 0m**;**

**}**

//try catch block to validate calculations

**try**

**{**

EnrollmentCost **=** CoursePrice **\*** NoOfAttendeesText**;**

LodgingCost **=** CourseDuration **\*** LocationPrice **\***

NoOfAttendeesText**;**

OptPrice **=** OptionalPrice **\*** NoOfAttendeesText**;**

DigiPrice **=** DigitalCertificatePrice **\*** NoOfAttendeesText**;**

TotalCostForBooking **=** Math**.**Round**(**EnrollmentCost

**+** LodgingCost **+**

OptPrice **+** DigiPrice**,** 2**);**

TotalOptionalValue **=** OptPrice **+** DigiPrice**;**

**}**

**catch**

**{**

MessageBox**.**Show**(**"Error in Total Calculation"**,**

"Calculation Error"**,** MessageBoxButtons**.**OK**,**

MessageBoxIcon**.**Error**);**

**}**

/\*Writing values to Display lables and round them to 2

\* decimal points \*/

NameOfTheCourseLB**.**Text **=** CourseName**;**

LocationOfTheCourseLB**.**Text **=** CourseLocation**;**

EnrollmentCostLB**.**Text **=** "€" **+** Math**.**Round**(**EnrollmentCost**,** 2**)**

**.**ToString**();**

LodgingCostLB**.**Text **=** "€" **+** Math**.**Round**(**LodgingCost**,** 2**)**

**.**ToString**();**

OptinalCostLB**.**Text **=** "€" **+** Math**.**Round**(**TotalOptionalValue**,** 2**)**

**.**ToString**();**

//Condition to check if Discount is Opted

**if** **((**int**.**Parse**(**AttendeesTB**.**Text**)** **>=** 3**)** **&**

**(**MasterSuiteRadioButton**.**Checked **||**

ExecutiveSuiteRadioButton**.**Checked **||**

JuniorSuiteRadioButton**.**Checked**))**

**{**

//Try catch block to validate cost after discount

**try**

**{**

PercentageCalculation **=** **(**TotalCostForBooking

**\*** DiscountPrice**)** **/** 100**;**

FinalDiscount **=** TotalCostForBooking **-**

PercentageCalculation**;**

TotalCostLB**.**Text **=** "€" **+** Math**.**Round**(**FinalDiscount**,** 2**)**

**.**ToString**();**

MessageBox**.**Show**(**"Discount is applicable " **+**

"for this Booking"**,**

"Discount"**,** MessageBoxButtons**.**OK**,**

MessageBoxIcon**.**Information**);**

**}**

**catch**

**{**

MessageBox**.**Show**(**"Error in Total " **+**

"Calculation with Discount"**,**

"Discount Calculation Error"**,**

MessageBoxButtons**.**OK**,**

MessageBoxIcon**.**Error**);**

**}**

SelectionDetailsGroupBox**.**Visible **=** **true;**

BookButton**.**Enabled **=** **true;**

L2PCoursePanel**.**Visible **=** **false;**

**}**

//Block condition contains value without discount

**else**

**{**

**try**

**{**

TotalCostLB**.**Text **=** "€" **+** Convert**.**ToString

**(**TotalCostForBooking**);**

**}**

**catch**

**{**

MessageBox**.**Show**(**"Error in Total Calculation"**,**

"Calculation Error"**,** MessageBoxButtons**.**OK**,**

MessageBoxIcon**.**Error**);**

**}**

**}**

**}**

/\*Else condtion if number of participants is in

\*negative or decimal number \*/

**else**

**{**

MessageBox**.**Show**(**"Please Enter whole number for Number " **+**

"of Participants"**,**

"Error"**,** MessageBoxButtons**.**OK**,** MessageBoxIcon**.**Error**);**

**}**

**}**

**catch**

**{**

MessageBox**.**Show**(**"Please Enter whole number for Number " **+**

"of Participants"**,**

"Error"**,** MessageBoxButtons**.**OK**,** MessageBoxIcon**.**Error**);**

**}**

**}**

//Condition to check if Location is selected

**else**

**{**

MessageBox**.**Show**(**"Please Select a Location to Proceed"**,**

"Error"**,**

MessageBoxButtons**.**OK**,** MessageBoxIcon**.**Error**);**

**}**

**}**

//Condition to check if course is selected

**else**

**{**

MessageBox**.**Show**(**"Please Select an Course to Proceed"**,**

"Error"**,**

MessageBoxButtons**.**OK**,** MessageBoxIcon**.**Error**);**

**}**

**}**

//Event handler to display booking details

**private** void BookButton\_Click**(object** sender**,** EventArgs e**)**

**{**

//Ops to perform when book button is pressed

BookingDetailsGroupBox**.**Visible **=** **false;**

SelectionDetailsGroupBox**.**Visible **=** **false;**

SummaryButton**.**Enabled **=** **true;**

SelectionDetailsButton**.**Enabled **=** **false;**

L2PCoursePanel**.**Visible **=** **true;**

//Increment values in the Summary lables when book button is pressed

EnrollmentSummary **+=** EnrollmentCost**;**

LodgingSummary **+=** LodgingCost**;**

OptionalValueSummary **+=** TotalOptionalValue**;**

//Condition block to incr discount count and price

**if** **((**int**.**Parse**(**AttendeesTB**.**Text**)** **>=** 3**)** **&&**

**(**MasterSuiteRadioButton**.**Checked **||**

ExecutiveSuiteRadioButton**.**Checked **||**

JuniorSuiteRadioButton**.**Checked**))**

**{**

//increment when discount is availed

NumberOfDiscountBookings**++;**

TotalValueOfBookingSummary **+=** FinalDiscount**;**

**}**

**else**

**{**

TotalValueOfBookingSummary **+=** TotalCostForBooking**;**

**}**

/\*Try catch block to validate booking details

/\* and Average calculation \*/

**try**

**{**

MessageBox**.**Show**(**"Your booking is confirmed" **+** "\n" **+**

"Course Name: " **+** NameOfTheCourseLB**.**Text **+** "\n" **+**

"Location of the Course: " **+** LocationOfTheCourseLB**.**Text **+** "\n" **+**

"Overall Cost: " **+** TotalCostLB**.**Text**,** "Booking Status"**,**

MessageBoxButtons**.**OK**,** MessageBoxIcon**.**Information**);**

SelectionDetailsGroupBox**.**Visible **=** **false;**

IncrementNumberOfTransactions**++;**

AverageTransaction **=** TotalValueOfBookingSummary **/**

IncrementNumberOfTransactions**;**

BookButton**.**Enabled **=** **false;**

**}**

**catch**

**{**

MessageBox**.**Show**(**"Error in Average Calculation"**,**

"Calculation Error"**,** MessageBoxButtons**.**OK**,**

MessageBoxIcon**.**Error**);**

**}**

**}**

//Event handler to display Summary details

**private** void SummaryButton\_Click**(object** sender**,** EventArgs e**)**

**{**

//Ops to perform when summary button is clicked

TotalSummaryGroupBox**.**Visible **=** **true;**

BookingDetailsGroupBox**.**Visible **=** **false;**

SelectionDetailsGroupBox**.**Visible **=** **false;**

SelectionDetailsButton**.**Enabled **=** **false;**

BookButton**.**Enabled **=** **false;**

L2PCoursePanel**.**Visible **=** **false;**

//Writing the values to the Summary lables and rounf them to 2 decimal points

TotalValueofBookingProcessedLB**.**Text **=** "€" **+**

Math**.**Round**(**TotalValueOfBookingSummary**,**2**)**

**.**ToString**();**

TotalEnrollmentFeesLB**.**Text **=** "€" **+**

Math**.**Round**(**EnrollmentSummary**,**2**).**ToString**();**

TotalLodgingFeesLB**.**Text **=** "€" **+**

Math**.**Round**(**LodgingSummary**,**2**).**ToString**();**

TotalValueOfAnyOptionsChosenLB**.**Text **=** "€" **+**

Math**.**Round**(**OptionalValueSummary**,**2**)**

**.**ToString**();**

NumberOfBookingsavailedGroupDiscountLB**.**Text **=**

NumberOfDiscountBookings**.**ToString**();**

AverageRevenuePerBookingLB**.**Text **=** "€" **+**

Math**.**Round**(**AverageTransaction**,**2**).**ToString**();**

**}**

//Event Handler to clear details and load new form

**private** void ClearButton\_Click**(object** sender**,** EventArgs e**)**

**{**

//calling event to clear the ghost button

NoneRadioButton\_CheckedChanged**(**sender**,** e**);**

//Ops to be performed when Clear button is Clicked

TotalValueofBookingProcessedLB**.**Text **=** ""**;**

TotalEnrollmentFeesLB**.**Text **=** ""**;**

TotalLodgingFeesLB**.**Text **=** ""**;**

TotalValueOfAnyOptionsChosenLB**.**Text **=** ""**;**

NumberOfBookingsavailedGroupDiscountLB**.**Text **=** ""**;**

AverageRevenuePerBookingLB**.**Text **=** ""**;**

NameOfTheCourseTB**.**Text **=** ""**;**

LocationOfCourseTB**.**Text **=** ""**;**

TotalCostOfCourseTB**.**Text **=** ""**;**

EnrollmentCostLB**.**Text **=** ""**;**

LodgingCostLB**.**Text **=** ""**;**

OptinalCostLB**.**Text **=** ""**;**

TotalCostLB**.**Text **=** ""**;**

AttendeesTB**.**Text **=** ""**;**

CourseSelectionListBox**.**ClearSelected**();**

LocationListBox**.**ClearSelected**();**

**if** **(**MasterSuiteRadioButton**.**Checked **||** ExecutiveSuiteRadioButton**.**Checked **||**

JuniorSuiteRadioButton**.**Checked **||** DigitalCertificateCheckBox**.**Checked**)**

**{**

MasterSuiteRadioButton**.**Checked **=** **false;**

ExecutiveSuiteRadioButton**.**Checked **=** **false;**

JuniorSuiteRadioButton**.**Checked **=** **false;**

DigitalCertificateCheckBox**.**Checked **=** **false;**

**}**

AttendeesTB**.**Text **=** "0"**;**

TotalSummaryGroupBox**.**Visible **=** **false;**

BookingDetailsGroupBox**.**Visible **=** **false;**

SelectionDetailsGroupBox**.**Visible **=** **false;**

SelectionDetailsButton**.**Enabled **=** **true;**

SummaryButton**.**Enabled **=** **true;**

L2PCoursePanel**.**Visible **=** **true;**

**this.**StandardRadioButton**.**Checked **=** **true;**

**}**

//Event handler to exit the application

**private** void ExitButton\_Click**(object** sender**,** EventArgs e**)**

**{**

DialogResult iExit**;**

iExit **=** MessageBox**.**Show**(**"Confirm if you want to exit the system"**,**

"Ordering system"**,** MessageBoxButtons**.**YesNo**,** MessageBoxIcon**.**Question**);**

**if** **(**iExit **==** DialogResult**.**Yes**)**

**{**

Application**.**Exit**();**

**}**

**}**

/\*Below are the radio button event handlers

\* controlling the visibility of the ghost button\*/

**private** void JuniorSuiteRadioButton\_CheckedChanged**(object** sender**,** EventArgs e**)**

**{**

StandardRadioButton**.**Visible **=** **true;**

**}**

**private** void ExecutiveSuiteRadioButton\_CheckedChanged**(object** sender**,** EventArgs e**)**

**{**

StandardRadioButton**.**Visible **=** **true;**

**}**

**private** void MasterSuiteRadioButton\_CheckedChanged**(object** sender**,** EventArgs e**)**

**{**

StandardRadioButton**.**Visible **=** **true;**

**}**

**private** void NoneRadioButton\_CheckedChanged**(object** sender**,** EventArgs e**)**

**{**

StandardRadioButton**.**Visible **=** **false;**

**}**

**}**

**}**