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2nd Year BSCS

# Hotel Reservation

**Booking Type**

Direct ▾

**Room Type**

Double ▾

**Room Rate Per Night**

2000

**Number of Nights To Stay**

2

**Reservation Fee**

100

**Reservation Price**

4000

**Total Price**

4100

Compute

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace CabreraMidterm {
    class Reservation {

        // Input fields
        private string bookingType;
        private string roomType;
        private int numberOfNightsToStay;

        // Output fields
        private int reservationFee;
        private int roomRatePerNight;
        private double reservationPrice;
        private double totalPrice;

        // Other properties
        public static Dictionary<string, int> RoomTypeByRatePerNightMap = new Dictionary<string, int>() {
            { "Single", 1000}, {"Double", 2000}, {"Studio", 5000},
            { "Deluxe", 10000}, {"Suite", 15000}
        };

        public static Dictionary<string, int> BookingTypeByReservationFeeMap = new Dictionary<string, int>() {
            {"Direct", 100}, {"Indirect", 300 }
        };


        // Constructor
        public Reservation() { }

        // Methods

        //Compute methods
        private void ComputeReservationFee() {
            reservationFee = BookingTypeByReservationFeeMap[bookingType];
        }

        private void ComputeRoomRatePerNight() {
            roomRatePerNight = RoomTypeByRatePerNightMap[roomType];
        }

        private void ComputeReservationPrice() {
            ComputeRoomRatePerNight();
            reservationPrice = numberOfNightsToStay * roomRatePerNight;
        }

        private void ComputeTotalPrice() {
            ComputeReservationFee();
            ComputeReservationPrice();
            totalPrice = reservationPrice + reservationFee;
        }


        // Setters
```

```csharp
        public void SetBookingType(string bookingType) {
            this.bookingType = bookingType;
        }

        public void SetRoomType(string roomType) {
            this.roomType = roomType;
        }

        public void SetNumberOfNightsToStay(int numberOfNightsToStay) {
            this.numberOfNightsToStay = numberOfNightsToStay;
        }

        // Getters
        public int GetReservationFee() {
            ComputeReservationFee();
            return reservationFee;
        }

        public int GetRoomRatePerNight() {
            ComputeRoomRatePerNight();
            return roomRatePerNight;
        }

        public double GetReservationPrice() {
            ComputeReservationPrice();
            return reservationPrice;
        }

        public double GetTotalPrice() {
            ComputeTotalPrice();
            return totalPrice;
        }

    }
}




using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace CabreraMidterm {
    public partial class MainForm : Form {

        Reservation reservation = new Reservation();

        public MainForm() {
            InitializeComponent();
```

```csharp
        }

        private void MainForm_Load(object sender, EventArgs e) {
            LoadBookingType();
            LoadRoomType();

        }

        private void btnCompute_Click(object sender, EventArgs e) {
            reservation.SetNumberOfNightsToStay(int.Parse(txtNumberOfNightsToStay.Text));
            txtReservationPrice.Text = reservation.GetReservationPrice().ToString();
            txtTotalPrice.Text = reservation.GetTotalPrice().ToString();
        }

        private void cmbBookingType_SelectedIndexChanged(object sender, EventArgs e) {
            reservation.SetBookingType(cmbBookingType.Text);
            txtReservationFee.Text = reservation.GetReservationFee().ToString();
        }

        private void cmbRoomType_SelectedIndexChanged(object sender, EventArgs e) {
            reservation.SetRoomType(cmbRoomType.Text);
            txtRoomRatePerNight.Text = reservation.GetRoomRatePerNight().ToString();
        }



        // Data loading methods
        private void LoadBookingType() {
            foreach (string bookingType in Reservation.BookingTypeByReservationFeeMap.Keys) {
                cmbBookingType.Items.Add(bookingType);
            }
        }

        private void LoadRoomType() {
            foreach (string roomType in Reservation.RoomTypeByRatePerNightMap.Keys) {
                cmbRoomType.Items.Add(roomType);
            }
        }
    }
}
```