

객체지향프로그래밍 기말과제

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과목: 객체지향프로그래밍

목차

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- 2. 업그레이드 포인트
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```
Repository / IKioskRepository.cs
using kiosk.Model;
using System;
using System.Collections.Generic;
using System.Ling;
using System.Text;
using System.Threading.Tasks;
namespace kiosk.Repository
  interface IKioskRepository
                // 주문
     void AddMenu(string name, int price);
     // 계산
     int Billing();
     // 주문한 메뉴 확인
     List<Menu> SelectOrders();
     // 주문한 갯수
     int CountingMenu();
                // 초기화
     void Reset();
```

```
Model / Menu.cs
using System;
using System.Collections.Generic;
using System.Ling;
using System.Text;
using System.Threading.Tasks;
namespace kiosk. Model
  class Menu
                // 메뉴 이름
     public string Name { get; set; }
                // 메뉴 가격
     public int Price { get; set; }
                // 주문 수량
     public int Each { get; set; }
                // 개체 출력 양식
     public override string ToString()
        return $"{Name} : {Price} : {Each}개";
```

```
Repository / KioskRepository.cs
using kiosk. Model;
using System;
using System.Collections.Generic;
using System.Ling;
using System.Text;
using System. Threading. Tasks;
namespace kiosk.Repository
  class KioskRepository: IKioskRepository
     // 주문한 메뉴 개체 인스턴스
     public static List<Menu> menus = new List<Menu>();
     public void AddMenu(string name, int price)
       menus.Add(new Menu { Name = name, Price = price, Each = 1 });
       // 중복 제거, 특정 기준으로 그룹화를 시켜준 다음 그룹 중 첫번째 값만 리스트 형식으로 리턴
       // object가 아닌 literal value List 였다면 .Distinct().ToList() 사용
       menus = menus
                  .GroupBy(item => item.Name)
                  .Select(item => new Menu { Name = item.First().Name, Price =
item.First().Price, Each = (item.First().Each - 1) + item.Count()})
                 .ToList();
     // 계산
     public int Billing()
       return menus.Sum((menu) => (menu.Price * menu.Each));
     // 주문한 메뉴 확인
     public List<Menu> SelectOrders()
       return menus;
     // 주문한 갯수
     public int CountingMenu()
       return menus.Sum(menu => menu.Each);
     // 초기화
     public void Reset()
       menus.Clear();
```

```
HambergerForm
배경 흰색과 기본 테두리
radio button
using kiosk.Repository;
using System;
using System.Collections.Generic:
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Ling;
using System.Text:
using System.Threading.Tasks;
using System. Windows. Forms;
namespace kiosk
  public partial class HambergerForm : UserControl
     private KioskRepository repository = new KioskRepository();
     private TextBox textbox;
     private Label label1;
     private Label label2;
     public HambergerForm(TextBox textBox, Label labe1, Label label2)
        InitializeComponent();
        this.textbox = textBox;
        this.label1 = labe1:
        this.label2 = label2;
        bulgogi.CheckedChanged += CheckItem;
        doublebulgogi.CheckedChanged += CheckItem:
        cheese.CheckedChanged += CheckItem:
        doublecheese.CheckedChanged += CheckItem;
     private void CheckItem(object sender, EventArgs e)
        RadioButton rd = (RadioButton)sender;
        bool flag = rd.Checked;
        if(flag)
          string str = "";
          textbox.Text = "":
          repository.AddMenu(rd.Text, 5000);
          repository.SelectOrders().ForEach(menu => {
             str += $"{menu.ToString()}\r\n";
          textbox.Text = str;
          label1.Text = $"가격: {repository.Billing()}";
          label2.Text = $"수량: {repository.CountingMenu()}";
```

```
SideForm
배경 흰색과 기본 테두리
check box
using kiosk.Repository;
using System;
using System, Collections, Generic:
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Ling;
using System.Text:
using System.Threading.Tasks;
using System. Windows. Forms;
namespace kiosk
  public partial class SideForm: UserControl
     private KioskRepository repository = new KioskRepository();
     private TextBox textbox;
     private Label label1;
     private Label label2:
     public SideForm(TextBox textBox, Label labe1, Label label2)
        InitializeComponent();
        this.textbox = textBox;
        this.label1 = labe1:
        this.label2 = label2;
        frenchfrice.CheckedChanged += CheckItem;
        marinaedfrise.CheckedChanged += CheckItem;
        applepie.CheckedChanged += CheckItem:
        eggtart.CheckedChanged += CheckItem;
     private void CheckItem(object sender, EventArgs e)
        CheckBox ck = (CheckBox)sender;
        bool flag = ck.Checked;
        if (flag)
           string str = "";
          textbox.Text = "":
           repository.AddMenu(ck.Text, 5000);
           repository.SelectOrders().ForEach(menu => {
             str += $"{menu.ToString()}\r\n";
          textbox.Text = str;
          label1.Text = $"가격: {repository.Billing()}";
label2.Text = $"수량: {repository.CountingMenu()}";
```

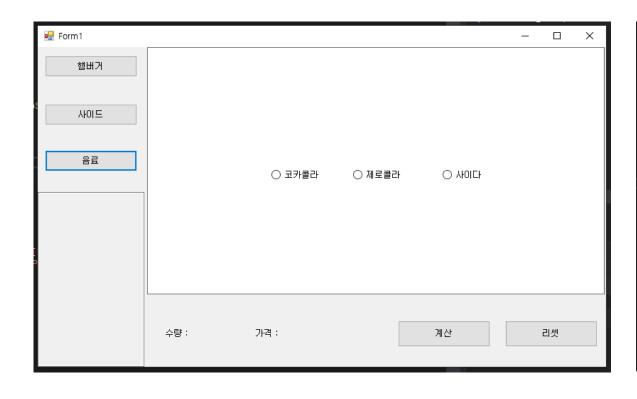
```
DrinksForm
배경 흰색, 기본 테두리
radio button
using kiosk.Repository;
using System;
using System.Collections.Generic:
using System.ComponentModel;
using System.Data:
using System.Drawing;
using System.Ling;
using System.Text;
using System.Threading.Tasks;
using System. Windows. Forms;
namespace kiosk
   public partial class DrinksForm: UserControl
     private KioskRepository repository = new
KioskRepository();
     private TextBox textbox;
     private Label label1;
     private Label label2:
     public DrinksForm(TextBox textBox, Label labe1, Label
label2)
        InitializeComponent();
       this.textbox = textBox;
       this.label1 = labe1;
       this.label2 = label2;
       coke.CheckedChanged += CheckItem;
       zecoke.CheckedChanged += CheckItem;
       sider.CheckedChanged += CheckItem;
     private void CheckItem(object sender, EventArgs e)
        RadioButton rd = (RadioButton)sender;
       bool flag = rd.Checked;
       if (flag)
           string str = "";
           textbox.Text = "":
           repository.AddMenu(rd.Text, 5000);
           repository.SelectOrders().ForEach(menu => {
             str += f''(menu.ToString())\r\n'';
           textbox.Text = str;
           label1.Text = $"가격: {repository.Billing()}";
           label2.Text = $"수량:
{repository.CountingMenu()}";
```

```
Form1
SplitContainer 사용
메뉴 선택은 button
주문 내역은 textbox(multiline)
주문은 button과 label
메뉴 보이는 부부은 Panel
using kiosk.Repository;
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System. Threading;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace kiosk
  public partial class Form1: Form
     private Control control = null;
     private KioskRepository repository = new KioskRepository();
     public Form1()
       InitializeComponent();
     private void hanburger_Click(object sender, EventArgs e)
       if (control != null) panel1.Controls.Remove(control);
       control = new HambergerForm(added, price, counter);
       panel1.Controls.Add(control);
     private void side_Click(object sender, EventArgs e)
       if (control != null) panel1.Controls.Remove(control);
       control = new SideForm(added, price, counter);
       panel1.Controls.Add(control);
     private void drinks_Click(object sender, EventArgs e)
       if (control != null) panel1.Controls.Remove(control);
       control = new DrinksForm(added, price, counter);
       panel1.Controls.Add(control);
```

```
private void bill_Click(object sender, EventArgs e)
  MessageBox.Show($"총 결제 금액은 {price.Text.Replace("가격:", "")}원 입니다");
  String str1 = $"str1 : ko[{getString("str1")}], en[{getString("en", "str1")}]";
  String str2 = $"str2 : ko[{getString("str2")}], en[{getString("en", "str2")}]";
  String msg = str1 + "\n\" + str2;
  MessageBox.Show(msg);
private void reset_Click(object sender, EventArgs e)
  repository.Reset();
  string str = "";
  added.Text = "":
  repository.SelectOrders().ForEach(menu => {
     str += f(menu.ToString())\r\n";
  });
  added.Text = str;
  price.Text = $"가격: {repository.Billing()}";
  counter.Text = $"수량 : {repository.CountingMenu()}";
// 언어 지역화
// 기본값은 한국어로 하며, 설정파일(ini) 등에서 값을 가져와 저장하여 사용
// https://srctree.tistory.com/33
public static string sLanguage = "ko";
public static string getString(string name)
  return getString(sLanguage, name);
public static string getString(string code, string name)
  if(code.Equals("en"))
     Thread.CurrentThread.CurrentUICulture = new System.Globalization.CultureInfo("en-US");
     return Properties. StringLib. Resource Manager. Get String (name);
  else
     Thread.CurrentThread.CurrentUICulture = new System.Globalization.CultureInfo("kb-KR");
     return Properties. StringLib. Resource Manager. Get String (name);
```









2. 업그레이드 포인트

- 1) 데이터베이스 연동
- 2) 이미지 추가
- 3) 다양한 창 추가
- 4) 전체주문내역 추가
- 5) 결제 시 문자발송 기능 추가





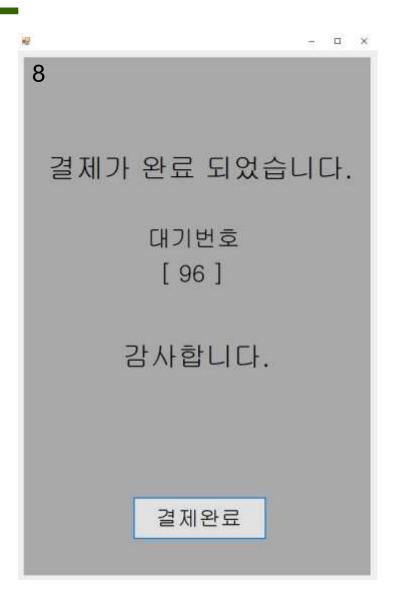




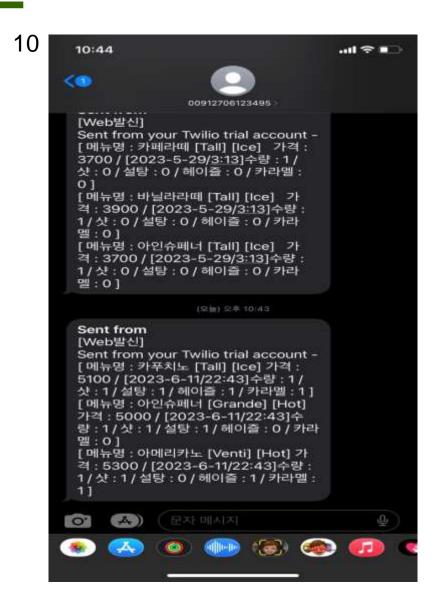












-데이터 베이스 연동

```
public static string connectionString = "server=----
;user=newuser;database=oopcafe;port=3306;password=11111111!";
     /*bool isConnected = TestConnection(connectionString);*/
     public static DataTable dataTable = LoadTable(connectionString, "orderhistory");
     public static DataTable LoadTable(string connectionString, string tableName)
       DataTable dataTable = new DataTable();
       using (MySqlConnection connection = new MySqlConnection(connectionString))
          connection.Open();
          string guery = $"SELECT * FROM {tableName}";
          using (MySqlCommand command = new MySqlCommand(query, connection))
             using (MySqlDataReader reader = command.ExecuteReader())
               dataTable.Load(reader);
       return dataTable;
```

```
-데이터 베이스 입력
public static void InsertOrderHistory(string coffeename, int coffeeprice, int coffeenum, int shotnum, int sugarnum, int hazlenum, int caranum, string
coffeesize, string coffeetemperature, string date)
       using (MySqlConnection connection = new MySqlConnection(connectionString))
         connection.Open();
         string sqlCommand = "INSERT INTO orderhistory (coffeename, coffeeprice, coffeenum, shotnum, sugarnum, hazlenum, caranum, coffeesize,
coffeetemperature, date) VALUES (@coffeename, @coffeeprice, @coffeenum, @shotnum, @sugarnum, @hazlenum, @caranum, @coffeesize,
@coffeetemperature, @date)";
         using (MySqlCommand command = new MySqlCommand(sqlCommand, connection))
            command.Parameters.AddWithValue("@coffeename", coffeename);
            command.Parameters.AddWithValue("@coffeeprice", coffeeprice);
            command.Parameters.AddWithValue("@coffeenum", coffeenum);
            command.Parameters.AddWithValue("@shotnum", shotnum);
            command.Parameters.AddWithValue("@sugarnum", sugarnum);
            command.Parameters.AddWithValue("@hazlenum", hazlenum);
            command.Parameters.AddWithValue("@caranum", caranum);
            command.Parameters.AddWithValue("@coffeesize", coffeesize);
            command.Parameters.AddWithValue("@coffeetemperature", coffeetemperature);
            command.Parameters.AddWithValue("@date", date);
            command.ExecuteNonQuery();
```

```
-데이터 베이스 출력
   public void setorderhistory()
     using (MySqlConnection connection = new MySqlConnection(MainForm.connectionString))
        connection.Open();
        string sqlCommand = "SELECT coffeename, coffeeprice, coffeenum, shotnum, sugarnum, hazlenum, caranum, coffeesize, coffeetemperature, date FROM orderhistory";
        using (MySqlCommand command = new MySqlCommand(sqlCommand, connection))
           using (MySqlDataReader reader = command.ExecuteReader())
             while (reader.Read())
                string coffeename = reader["coffeename"].ToString();
                int coffeeprice = Convert.ToInt32(reader["coffeeprice"]);
                int coffeenum = Convert.ToInt32(reader["coffeenum"]);
                int shotnum = Convert.ToInt32(reader["shotnum"]);
                int sugarnum = Convert.ToInt32(reader["sugarnum"]);
                int hazlenum = Convert.ToInt32(reader["hazlenum"]);
                int caranum = Convert.ToInt32(reader["caranum"]);
                string coffeesize = reader["coffeesize"].ToString();
                string coffeetemperature = reader["coffeetemperature"].ToString();
                string date = reader["date"].ToString();
                string firstLine = $"메뉴명: {coffeename} [{coffeesize}] [{coffeetemperature}] 가격: {coffeeprice} / [{date}]";
                string secondLine = $"수량: {coffeenum} / 샷: {shotnum} / 설탕: {sugarnum} / 헤이즐: {hazlenum} / 카라멜: {caranum}";
                orderhistorylist.Items.Add(firstLine);
                orderhistorylist.Items.Add(secondLine);
                orderhistorylist.Items.Add(""); // 이 줄을 추가하여 각 주문 사이에 빈줄을 추가합니다.
```



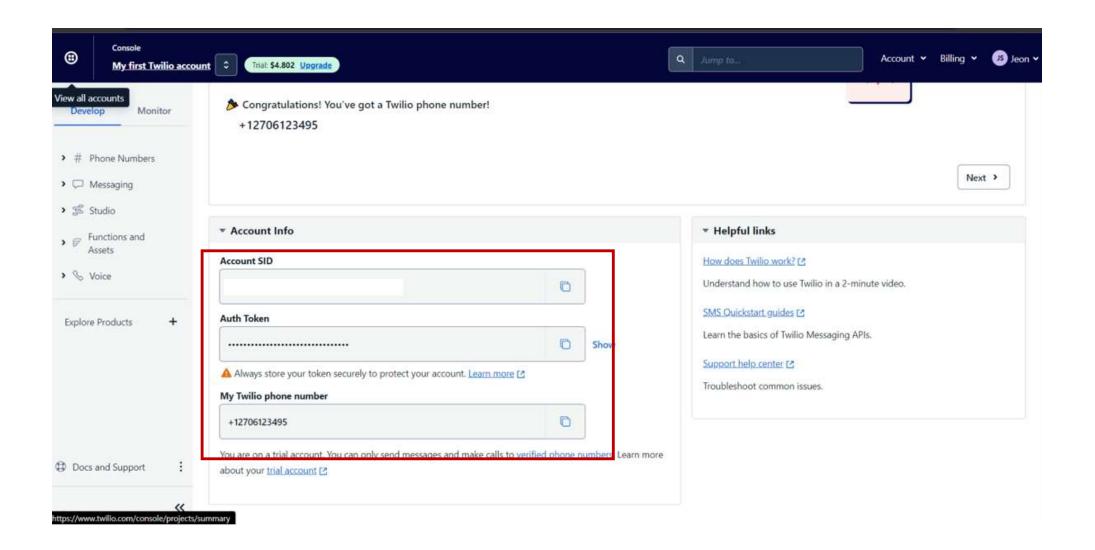
적용 예시

Twilio 의 API 를 이용

https://www.twilio.com/



- Twilio 홈페이지 사진



```
DateTime nowDate = DateTime.Now;
       string date = nowDate.Year.ToString() + "-" + nowDate.Month.ToString() + "-" + nowDate.Day.ToString() + "/" + nowDate.Hour.ToString() +
":" + nowDate.Minute.ToString();
       string body = "";
       string firstr = "";
       string secstr = "";
       MainForm mainForm = new MainForm();
       mainForm.Show();
       foreach (Menuclass item in MenuForm.orderlist)
          MainForm.InsertOrderHistory(item.coffeename,item.coffeeprice,item.coffeenum,item.shotnum,item.sugarnum,item.hazlenum,item.caranum,
item.coffeesize,item.coffeetemperature,date);
          firstr = $"메뉴명: {item.coffeename} [{item.coffeesize}] [{item.coffeetemperature}] 가격: {item.coffeeprice} / [{date}]";
          secstr = $"수량: {item.coffeenum} / 샷: {item.shotnum} / 설탕: {item.sugarnum} / 헤이즐: {item.hazlenum} / 카라멜: {item.caranum}";
          body += "[ " + firstr+secstr + " ] \n";
       const string accountSid = "111111111111111111111111";
       const string authToken = "11111111111111111111111";
       TwilioClient.Init(accountSid, authToken);
       var message = MessageResource.Create(
          body: body,
          from: new Twilio.Types.PhoneNumber("+12706123495"),
          to: new Twilio.Types.PhoneNumber("+8201036705235"));
       Console.WriteLine(message.Sid);
```

```
Sent from
[Web발신]
Sent from your Twilio trial account -
[ 메뉴명 : 카푸치노 [Tall] [Ice] 가격 :
5100 / [2023-6-11/22:43]수량 : 1 /
샷:1/설탕:1/헤이즐:1/카라멜:1]
[메뉴명 : 아인슈페너 [Grande] [Hot]
가격: 5000 / [2023-6-11/22:43]수
량: 1 / 샷: 1 / 설탕: 1 / 헤이즐: 0 / 카라
멜:01
[ 메뉴명 : 아메리카노 [Venti] [Hot] 가
격 : 5300 / [2023-6-11/22:43]수량 :
1 / 샷 : 1 / 설탕 : 0 / 헤이즐 : 1 / 카라멜 :
1]
```

문자발송 예시

4. 출처

https://velog.io/@ansalstmd/C-%EC%95%8C%EC%95%84%EA%B0%80%EA%B8%B0-4-1.-C-%ED%82%A4%EC%98%A4%EC%8A%A4%ED%81%AC-%EB%8F%84%EC%A0%84

https://codenet.tistory.com/25

ai.com

https://wrtn.ai/

https://github.com/JeonSangHoon0711/cafe-order-system

twilio.com

https://www.flaticon.com/kr/free-icon/coffee_4721028?term=%EC%BB%A4%ED%94%BC&page=1&position=90&origin=tag&related_id=4721028

이디야키오스크, 빽다방키오스크