МІНІСТЕРСТВО ОСВІТИ ТА НАУКИ УКРАЇНИ

Національний технічний університет України

"Київський політехнічний інститут імені Ігоря Сікорського"

Факультет інформатики та обчислювальної техніки

Лабораторна робота №6

з дисципліни «Об'єктно оріентовне програмування»

Тема: « **Технологія ADO.NET. Підключений/автономний рівень**»

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Балачін Петро

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**Мета роботи**: ознайомитись з роботою з базами даних

створити застосування для роботи з базою даних з використанням підключеного та автономного режимів

**Хід роботи:**

**Варіант 3**

class Program

{

static void Main(string[] args)

{

// InsertData();

string cn = "Data Source = (localdb)\\MSSQLLocalDB; Initial Catalog = RieltorsAgencyDB;Integrated Security = True;";

using (var connection = new SqlConnection(cn))

{

connection.Open();

Console.WriteLine("1.All available esates: ");

string AllEstaes = "SELECT \* FROM Estastes";

var selectEstates = new SqlCommand(AllEstaes, connection);

var sel = selectEstates.ExecuteReader();

while (sel.Read())

{

Console.WriteLine("ID:{0}; Type: {1}; Purpose: {2}; Registered number: {3}; Adress: {4}; " +

"Price: {5}$", sel[0],sel[1],sel[2],sel[3],sel[4],sel[5]);

}

sel.Close();

Console.WriteLine();

Console.WriteLine("2.Brocers staff: ");

string AllBrocers = "SELECT \* FROM Brocers";

var selectBrokers = new SqlCommand(AllBrocers, connection);

var sel2 = selectBrokers.ExecuteReader();

while (sel2.Read())

{

Console.WriteLine("ID:{0}; FirstName: {1}; SecondName: {2}; AgencyId: {3}; ", sel2[0], sel2[1], sel2[2], sel2[3]);

}

sel2.Close();

Console.WriteLine();

Console.WriteLine("3.All Clients: ");

string AllClients = "SELECT \* FROM Clients";

var selectClients = new SqlCommand(AllClients, connection);

var sel3 = selectClients.ExecuteReader();

while (sel3.Read())

{

Console.WriteLine("ID: {0}; FirstName: {1}; SecondName: {2}; Phone Number: {3}; Registration number: {4}; ", sel3[0], sel3[1], sel3[2], sel3[3],sel3[4]);

}

sel3.Close();

Console.WriteLine();

Console.WriteLine("4.All sellings: ");

string AllSales = "SELECT \* FROM Estastes WHERE Purpose = 'Sell'";

var selectSales = new SqlCommand(AllSales, connection);

var sel4 = selectSales.ExecuteReader();

while (sel4.Read())

{

Console.WriteLine("ID:{0}; Type: {1}; Purpose: {2}; Registered number: {3}; Adress: {4}; " +

"Price: {5}", sel4[0], sel4[1], sel4[2], sel4[3], sel4[4], sel4[5]);

}

sel4.Close();

Console.WriteLine();

Console.WriteLine("5.The chipiest place to live: ");

string chipRoom = "SELECT TOP 1 \* FROM Estastes WHERE Purpose = 'Rent' ORDER BY Price DESC";

var selectChipRoom = new SqlCommand(chipRoom, connection);

var sel5 = selectChipRoom.ExecuteReader();

while (sel5.Read())

{

Console.WriteLine("The chipiest place to live is {0} which {1}s at the {2} for {3}$ ", sel5[1], sel5[2], sel5[4], sel5[5]);

}

sel5.Close();

Console.WriteLine();

Console.WriteLine("6.Which dealer sales each estimate: ");

string whoSale = "SELECT Brocers.FirstName,Brocers.SecondName,Estastes.Address,Estastes.Type FROM (Contracts INNER JOIN Brocers ON Contracts.BrockerId = Brocers.BrockerId) INNER JOIN Estastes ON Contracts.EstateId = Estastes.EstateId ";

var selectWhoSale = new SqlCommand(whoSale, connection);

var sel6 = selectWhoSale.ExecuteReader();

while (sel6.Read())

{

Console.WriteLine("{0} {1} Sales {3} at {2}", sel6[0], sel6[1], sel6[2],sel6[3]);

}

sel6.Close();

Console.WriteLine();

Console.WriteLine("7.The avaliable estimates: ");

string avaEst = "SELECT \* FROM Contracts RIGHT JOIN Estastes ON Contracts.EstateId = Estastes.EstateId WHERE ContractId is NULL";

var selectAvaEst = new SqlCommand(avaEst, connection);

var sel7 = selectAvaEst.ExecuteReader();

while (sel7.Read())

{

Console.WriteLine("{0} to {1} at {2} for {3}", sel7[7], sel7[8],sel7[10],sel7[11]);

}

sel7.Close();

Console.WriteLine();

Console.WriteLine("8.Where lives clients: ");

string whereClients = "SELECT Clients.FirstName,Clients.SecondName,Estastes.Address,Estastes.Type FROM (Contracts INNER JOIN Clients ON Contracts.CLientId = Clients.ClientId) INNER JOIN Estastes ON Contracts.EstateId = Estastes.EstateId WHERE Estastes.Purpose = 'Rent' OR Estastes.Purpose = 'Buy'";

var selectWhereClients = new SqlCommand(whereClients, connection);

var sel8 = selectWhereClients.ExecuteReader();

while (sel8.Read())

{

Console.WriteLine("{0} {1} lives in new {2} at {3}", sel8[0], sel8[1], sel8[3], sel8[2]);

}

sel8.Close();

Console.WriteLine();

Console.WriteLine("9.How to contact a brocer: ");

string contactBrocer = "SELECT Brocers.FirstName ,Brocers.SecondName, Agencys.Name,Agencys.Phone FROM Brocers FULL OUTER JOIN Agencys ON Brocers.AgencyId = Agencys.AgencyId";

var selectContactsBrocer = new SqlCommand(contactBrocer, connection);

var sel9 = selectContactsBrocer.ExecuteReader();

while (sel9.Read())

{

Console.WriteLine("{0} {1} contact by {2}-phone number of <{3}> company", sel9[0], sel9[1], sel9[3], sel9[2]);

}

sel9.Close();

Console.WriteLine();

Console.WriteLine("10.Clients who want to sell property: ");

string wantToSell = "SELECT Clients.FirstName,Clients.SecondName,Estastes.Type,Estastes.Address,Estastes.Price FROM (Contracts FULL OUTER JOIN Clients ON Clients.ClientId = Contracts.ClientId) left JOIN Estastes ON Estastes.EstateId = Contracts.EstateId WHERE Estastes.Purpose = 'Sell'";

var selectSellingClients = new SqlCommand(wantToSell, connection);

var sel10 = selectSellingClients.ExecuteReader();

while (sel10.Read())

{

Console.WriteLine("{0} {1} wanted to sell {2} at {3} for {4}$", sel10[0], sel10[1], sel10[2], sel10[3],sel10[4]);

}

sel10.Close();

connection.Close();

}

}

public static void InsertData()

{

string cn = "Data Source = (localdb)\\MSSQLLocalDB; Initial Catalog = RieltorsAgencyDB;Integrated Security = True;";

using (var connection = new SqlConnection(cn))

{

connection.Open();

string addAgency =

"INSERT INTO Agencys(Name,Adress,Phone,DirectorName) SELECT 'BERI\_KBARTIRY','Kiev,Yangelia 22','+380982824166','Mikyla Nikoliaev'" ;

string addBrokers =

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'John','Black', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Dean','White', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Leam','Johnson', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'John','Sena', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Andy','Marshal', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Vasya','Petrov', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Andrei','Belov', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Anna','Clark', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Jin','Marbles', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Bob','Sponge', '1'" +

"INSERT INTO Brocers(FirstName,SecondName,AgencyId) SELECT 'Patric','Stars', '1'";

string addClients =

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'John','Snow', '452135','0156'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Robbert','Barateon', '789456','5468'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Aria','Stark', '12586','2354'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Ben','Ten', '654862','0629'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Aang','Avatar', '123548','5486'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Toph','Suong', '745892','7469'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Katara','Water', '12354','9865'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Soka','Water', '412532','1234'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Din','Winchester', '788945','05649'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Gerald','Rivia', '412584','65482'" +

"INSERT INTO Clients(FirstName,SecondName,PhoneNumber,RegistrationNumber) SELECT 'Yenifer','Vengerberg', '354854','9784'";

string addEstates =

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Flat','Sell', '2006','Vinnitsa,Pyrogova 107A','20000'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'House','Sell', '0620','Salnik','5000'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'House','Buy', '1778','Mariupol,Lenina 50B','25000'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Room','Rent', '2000','Kyev,Yangelia 22','30'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Flat','Buy', '1554','Kiev,Starokievskaya 1','350'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Area','Sell', '5432','Berdiansk','200500'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Room','Rent', '7894','Krim,Belyaus','200'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Area','Buy', '7845','Miropilya','34500'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'Flat','Buy', '1445','Vinitsua,Aivazovskogo 5','65000'" +

"INSERT INTO Estastes(Type,Purpose,RegistrationNumber,Address,Price) SELECT 'House','Sell', '4125','Sopyn','78000'";

string addContracts =

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '11','01.01.20', '1','1','1'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '22','02.02.20', '2','2','2'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '33','03.03.20', '2','3','3'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '44','04.04.20', '4','5','4'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '55','05.05.20', '5','4','5'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '66','06.06.20', '5','6','6'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '71','05.11.20', '7','7','7'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '35','12.06.20', '8','8','8'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '87','30.02.20', '9','9','9'" +

"INSERT INTO Contracts(RegistrationNumber,Date,BrockerId,ClientId,EstateId) SELECT '99','09.09.19', '10','10','10'";

var insertAgency = new SqlCommand(addAgency, connection);

var insertBrokers = new SqlCommand(addBrokers, connection);

var insertClients = new SqlCommand(addClients, connection);

var insertEstates = new SqlCommand(addEstates, connection);

var insertContracts = new SqlCommand(addContracts, connection);

insertAgency.ExecuteNonQuery();

insertBrokers.ExecuteNonQuery();

insertClients.ExecuteNonQuery();

insertEstates.ExecuteNonQuery();

insertContracts.ExecuteNonQuery();

connection.Close();

}

}

}

**Висновок:**Я засвоїв теоретичний матеріал з відповідної теми та закріпив його,виконавши практичні завдання.