Tutorial 15

Programming Exercise I – Preparing SQL statements

1. Go to Tools->Sql Server Compact/SQLite Toolbox
2. Right click the WIUT database in Data Connections and choose New query
3. Try to compose and execute SQL queries for CRUD operations for Course table:

INSERT INTO Course (Name) VALUES ('BA')

UPDATE Course SET Name='CL' WHERE Id=1

DELETE FROM Course WHERE Id=1

SELECT ID,Name FROM Course WHERE ID=1

SELECT ID,Name FROM Course

Programming Exercise II – Managers

Create a manager class for each of the DB tables.

1. Right click solution in Solution Explorer and choose Add->New project
2. Add new project of type Class Library. Call it WIUT.DAL
3. Add reference to WIUT.DAL project – SystemData.SqlServerCe (v4.0.0.0)
   1. If the right version is not available in your list of .Net libraries, use the file attached to Intranet
4. Add reference to WIUT.DAL project – System.Windows.Forms
5. Delete default Class1.cs from the project
6. Move Applicant and Course files from WIUT project to WIUT.DAL
7. Update Applicant and Course
   1. Make them “public”

public class Course

* 1. Change namespace to be WIUT.DAL

namespace WIUT.DAL

1. Add new class to WIUT.DAL project, call it CourseManager
2. Add imports statement:

using System.Windows.Forms;

using System.Data;

using System.Data.SqlServerCe;

1. Create the following functions:
   1. public void Create(Course c)
   2. public void Update(Course c)
   3. public void Delete(int id)
   4. public Course GetById(int id)
   5. public List<Course> GetAll()
2. Add code to the functions (use the code below as example) using the sql statements created in the previous exercise.

public void Create(Course c)

{

var connection = new SqlCeConnection("");

try

{

var sql = $"INSERT INTO Course (Name) VALUES ('{c.Name}')";

var command = new SqlCeCommand(sql, connection);

connection.Open();

command.ExecuteNonQuery();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

finally

{

if (connection.State != ConnectionState.Closed)

{

connection.Close();

}

}

}

public List<Course> GetAll()

{

var connection = new SqlCeConnection("");

var result = new List<Course>();

try

{

var sql = "SELECT Id, Name FROM Course";

var command = new SqlCeCommand(sql, connection);

connection.Open();

var reader = command.ExecuteReader();

while (reader.Read())

{

var c = new Course {

Id = Convert.ToInt32(reader.GetValue(0)),

Name = Convert.ToString(reader.GetValue(1))

};

result.Add(c);

}

}

catch (Exception ex)

{

MessageBox.Show(ex.Message);

}

finally

{

if (connection.State != ConnectionState.Closed)

{

connection.Close();

}

}

return result;

}

Home work

Complete all methods of both managers if you haven’t done so in class