**PRACTICAL # 15**

**OBJECT:**

C# working with database

**THEORY:**

C# applications usually require a database at the backend to store data. One of the most used databases with C# is SQL Server.

**Program:**

*//Connection String*

*string connectionString = "Data Source=.;Initial Catalog = YourDatabaseName;uid =sa;pwd = YourPassword";*

*//Creating Connection*

*SqlConnection conn = new SqlConnection(connectionString);*

*//Opening Connection*

*conn.Open();*

*string query = "select \* from UsersDataBase where UserName='"+TextBox1.Text+"'";*

*//Creating SQL Command*

*SqlCommand cmd = new SqlCommand(query, conn);*

*//Execute Query*

*cmd.ExecuteNonQuery();*

*cmd.ExecuteScalar();*

*//Execute Query*

*conn.Close();*

Summing up the code in the class.

*using System.Data.SqlClient;*

*class myConnection {*

*public static SqlConnection GetConnection() {*

*string connectionString = "Data Source=.;Initial Catalog = YourDatabaseName;uid =sa;pwd = YourPassword";*

*SqlConnection conn = new SqlConnection(connectionString);*

*conn.Open();*

*return conn;*

*}*

*}*

To use SQL Server, its better to create a separate class that maintains a single connection for the database.

A solution can be:

*using System.Data.SqlClient;*

*static class mySQLConnection{*

*private static string connectionString;*

*private static SqlConnection conn;*

*public string connectionString*

*{*

*get{ return connectionString; }*

*set{ connectionString = value; }*

*}*

*public SqlConnection getConnection(){*

*if ( conn == null || conn.IsClosed ){ // make sure to only opening connection once.*

*conn = new OdbcConnection(this.connectionString);*

*}*

*return conn;*

*}*

*public void CloseConnection(){*

*if ( conn != null && conn.IsOpen){ // Properly close the connection*

*conn.Close();*

*}*

*}*

*}*

**ACTIVITIES**

**Activity 1**

Write a simple application that establishes a database connection and performs CRUD operations.

**Activity 2**

Create a simple login and register pages.

**REVIEW QUESTIONS**

1. How is SQL Server database accessed from C#?
2. What is a connection string?
3. Why do we maintain single connection with database class?
4. Why is it a good practice to close the connection after use?