1. Program to implement an ASP.NET CORE MVC Web application with database retrieval and insertion.
   Nuget Package: Microsoft.Data.SqlClient

Controllers

StudentController.cs

```
using Microsoft.AspNetCore.Mvc;
using MVCDemo2.Models;

namespace MVCDemo2.Controllers
{
   public class StudentController : Controller
   {
      // /student
      public IActionResult Index()
      {
         DatabaseAccessLayer da=new DatabaseAccessLayer();
         var student = da.getStudents();
         return View(student);
      }

      // /student/register
      public IActionResult register()
      {
         return View();
      }

      // /student/Insert
      public void Insert(Student s)
      {
         DatabaseAccessLayer da = new DatabaseAccessLayer();
         da.InsertStudent(s);
      }
```

```
    }
}
```

Views

Index.cshtml

```
@model List<Student>
<h1>List of Students</h1>

@foreach(var s in Model)
{
    <h1>@s.StudentName</h1><br />
}
```

Register.cshtml

```
@model MVCDemo2.Models.Student;
<form asp-action="Insert">
    ID<input type="text" asp-for="Id"><br />
    Name<input type="text" asp-for="StudentName"><br />
    <input type="submit" value="insert">
</form>
```

Models

model.cs

```
namespace MVCDemo2.Models
{
    public class Student
    {
        public int Id { get; set; }
        public string StudentName { get; set; }
    }
```

```
}
```

DatabaseAccesslayer

```
using Microsoft.Data.SqlClient;

namespace MVCDemo2.Models
{
    public class DatabaseAccessLayer
    {
        List<Student> Students=new List<Student>();


        public List<Student> getStudents()
        {
            string connString = @"Data Source = DESKTOP-PSJ0L2I\SQLEXPRESS;Initial Catalog =
StudentDatabase; Integrated Security = True; TrustServerCertificate=True ";
            SqlConnection conn = new SqlConnection(connString);


            try
            {
                conn.Open();
                SqlCommand cmd1 = new SqlCommand("select * from Students", conn);
                SqlDataReader dr = cmd1.ExecuteReader();
                while (dr.Read())
                {
                    Student stud = new Student();
                    stud.StudentName = dr[1].ToString();
                    Students.Add(stud);
                }
            }


            catch (Exception e)
            {
                Console.WriteLine("Error: " + e);
```

```
        }
        finally
        {
            conn.Close();
        }
        return Students;
    }

    public void InsertStudent(Student s)
    {
        string connString = @"Data Source = DESKTOP-PSJ0L2I\SQLEXPRESS;Initial Catalog =
StudentDatabase; Integrated Security = True; TrustServerCertificate=True ";
        SqlConnection conn = new SqlConnection(connString);
        string INSERT_TABLE = @"insert into Students(StudentName) values('" +
            s.StudentName + "')";
        try
        {
            conn.Open();
            SqlCommand cmd1 = new SqlCommand(INSERT_TABLE, conn);
            cmd1.ExecuteNonQuery();
        }

        catch (Exception e)
        {
            Console.WriteLine("Error: " + e);
        }
        finally
        {
            conn.Close();
        }
    }
```

```
    }
}
```