**Written Question 1**

* implement parameterized queries to prevent SQL injection.
* Implement error handling using try-catch blocks.
* Create a view model class to pass data to the view.
* Implement basic authentication for the customer details page

public ActionResult Details(string customerid)

        {

            if (string.IsNullOrEmpty(customerid))

            {

                return RedirectToAction("Index", "Home"); // Handle invalid or missing customerid

            }

            try

            {

                string connectionString = "Data Source=localhost;Initial Catalog=CustomerDatabase;User Id=sa;Password=password";

                using (SqlConnection connection = new SqlConnection(connectionString))

                {

                    connection.Open();

                    string query = "SELECT \* FROM Customers WHERE ID = @CustomerID";

                    using (SqlCommand cmd = new SqlCommand(query, connection))

                    {

                        cmd.Parameters.AddWithValue("@CustomerID", customerid);

                        using (SqlDataReader reader = cmd.ExecuteReader())

                        {

                            if (reader.Read())

                            {

                                var viewModel = new CustomerViewModel

                                {

                                    Firstname = (string)reader["FirstName"],

                                    Surname = (string)reader["Surname"],

                                    Email = (string)reader["Email"],

                                    Telephone = (string)reader["Telephone"]

                                };

                                return View(viewModel);

                            }

                            else

                            {

                                return RedirectToAction("Index", "Home"); // Handle non-existent customer

                            }

                        }

                    }

                }

            }

            catch (Exception ex)

            {

                // For demonstration purposes, I'm simply returning an error view with the exception message.

                ViewBag.ErrorMessage = ex.Message;

                return View("Error");

            }

        }

public class CustomerViewModel

    {

        public string Firstname { get; set; }

        public string Surname { get; set; }

        public string Email { get; set; }

        public string Telephone { get; set; }

    }

One more change that should be there but I am not entirely sure on how to implement it is as following:

In the original code, the password for the database is directly written in the source code. Storing passwords in plain text in the source code is a security risk. Instead, we should use a secure way of storing connection strings,