### MAHATMA EDUCATION SOCIETY'S

# PILLAI COLLEGE OF ARTS, COMMERCE & amp; SCIENCE

(Autonomous) NEW PANVEL

## PROJECT REPORT ON

"Fitness Tracker web Application using asp.net c#"

IN PARTIAL FULFILLMENT OF

### BACHELOR OF INFORMATION TECHNOLOGY

SEMESTER V - 2023-24

PROJECT GUIDE

Prof. Rashmi Chavan

SUBMITTED BY: Jatin Dnyaneshwar Gangare

**ROLL NO: 9469** 



# Pillai College of Arts, Commerce & Science

Affiliated to University of Mumbai NAAC Accredited 'A' grade (3 cycles) Best College Award by University of Mumbai ISO 9001:2015 Certified



# Certificate

This is to verify that Mr. <u>Jatin Dnyaneshwar Gangare</u>
Examination Seat no. <u>9469</u> has successfully completed all the practicals of the <u>subject Advance Web Programming</u> in partial fulfillment for the degree of B.Sc. (Information Technology) SEM V, affiliated to university of Mumbai for the academic year 2024-2025.

Internal Examiner
Examiner

**External** 



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**Class: TY Information Technology** 

Subject: Advance Web Programming

Details about the continuous Assessment 2/Project work:

Student Name: Jatin Dnyaneshwar Gangare

**Roll No:** 9469

**Topic:** Fitness Tracker web Application

Name of Evaluator: Prof. Rashmi Chavan

Grading Criteria	Fair	Good	Excellent	Total
Tools & Technique used	2	3	4	
				/5
Subject Knowledge	2	3	4	
				/5
Documentation/Report	2	3	4	
				/5
Total		•		/15



Co-ordinator,

Mrs. Anju Somani

#### Introduction:

The application is built using ASP.NET Web Forms and C#, providing users with the ability to track their workouts, exercises, and personal fitness metrics such as BMI and BMR. The system includes essential features like user authentication, personalized workout logging, and dynamic exercise management.

The application leverages a SQL Server database to store user data, workouts, and exercises. Users can sign up, log in, and access their personalized dashboard, which displays their fitness details and workout history. The dynamic interface allows users to add, update, or remove exercises from their workout routines in real time, making it flexible and user-friendly.

This project demonstrates key web development skills, including database connectivity, session management, and user interaction through forms, with a responsive design to ensure usability across various devices. The project is intended to provide a comprehensive fitness tracking solution while showcasing advanced web programming techniques.

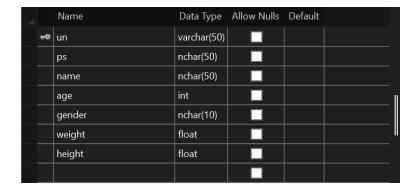
#### **Tools and Technologies Used**

- 1. .NET Framework:
  - ASP.NET Web Forms: For creating dynamic web pages.
  - C#: For server-side programming and business logic.
  - Common Language Runtime (CLR): To manage the execution of C# code.
  - .NET Class Library: For accessing various pre-built functionalities.
- 2. ASP.NET Web Controls:
  - Web Forms Fundamentals: For structuring and managing the web pages.
  - Form Controls: Such as TextBoxes, Buttons, and Labels for user input and interaction.
  - Validation Controls: For validating user input on forms.
  - GridView: To display and manage data from the database.
- 3. State Management:
  - State Management: Utilizing Session State to maintain user session data across pages.
  - View State: To retain the state of controls on the page.
- 4. ADO.NET:
  - Direct Data Access: For connecting to and querying the SQL Server database.
  - SqlConnection, SqlCommand, SqlDataAdapter: For database operations like querying and updating data.
  - Data Controls: Such as GridView to display data dynamically.
- 5. SQL Server:
  - Database: For storing user information, workouts, and exercises.
  - SQL Queries: For retrieving and manipulating data.

#### Code:

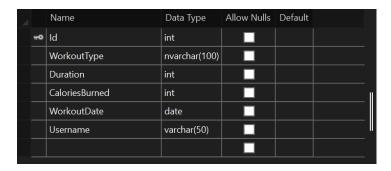
#### **User Database:**

```
CREATE TABLE [dbo].[users] (
  [un] VARCHAR (50) NOT NULL,
  [ps] NCHAR (50) NOT NULL,
  [name] NCHAR (50) NOT NULL,
  [age] INT NOT NULL,
  [gender] NCHAR (10) NOT NULL,
  [weight] FLOAT (53) NOT NULL,
  [height] FLOAT (53) NOT NULL,
  CONSTRAINT [PK_users] PRIMARY KEY CLUSTERED ([un] ASC)
);
```



#### **Workout Database:**

```
CREATE TABLE [dbo].[Workouts] (
  [ld]
           INT
                    IDENTITY (1, 1) NOT NULL,
  [WorkoutType] NVARCHAR (100) NOT NULL,
  [Duration]
                       NOT NULL,
              INT
  [CaloriesBurned] INT
                          NOT NULL,
  [WorkoutDate] DATE
                           NOT NULL,
               VARCHAR (50) NOT NULL,
  [Username]
  CONSTRAINT [PK_Workouts] PRIMARY KEY CLUSTERED ([Id] ASC),
  CONSTRAINT [FK_Workouts_Users] FOREIGN KEY ([Username]) REFERENCES [dbo].[users] ([un])
ON DELETE CASCADE
);
```



#### **Excersise Database:**

```
CREATE TABLE [dbo].[Exercises] (
          INT
                   IDENTITY (1, 1) NOT NULL,
  [ld]
  [WorkoutId] INT
                        NOT NULL,
  [ExerciseName] NVARCHAR (100) NOT NULL,
  [Sets]
           INT
                     NOT NULL,
            INT
                     NOT NULL,
  [Reps]
  CONSTRAINT [PK_Exercises] PRIMARY KEY CLUSTERED ([Id] ASC),
  CONSTRAINT [FK_Exercises_Workouts] FOREIGN KEY ([WorkoutId]) REFERENCES [dbo].[Workouts]
([Id]) ON DELETE CASCADE
);
```

4		Name	Data Type	Allow Nulls	Default	
	πo	Id	int			
		Workoutld	int			
		ExerciseName	nvarchar(100)			
		Sets	int			П
		Reps	int			

#### LoginForm.aspx

```
<@ Page Language="C#" AutoEventWireup="true" CodeBehind="LoginForm.aspx.cs"
Inherits="Fitness_Tracker.LoginForm" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Login</title>
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <style>
    body {
      background-image: url('FitnessWalpaper.jpg');
      background-size: cover;
      background-position: center;
      background-attachment: fixed;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      margin: 0;
      padding: 0;
      height: 100vh;
      display: flex;
      justify-content: center;
      align-items: center;
    }
    .login-container {
      max-width: 500px;
      width: 90%;
      background-color: rgba(255, 255, 255, 0.8);
      padding: 30px;
      border-radius: 8px;
      box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
      text-align: center;
    }
    h2 {
      margin-bottom: 20px;
      color: #333;
    }
    .form-group {
      margin-bottom: 20px;
    }
    .form-input {
```

```
width: 100%;
  padding: 10px;
  margin-bottom: 15px;
  border-radius: 5px;
  border: 1px solid #ced4da;
  transition: border-color 0.3s ease;
}
.form-input:focus {
  border-color: #007bff;
  box-shadow: none;
  outline: none;
}
.login-button {
  width: 100%;
  padding: 10px;
  background-color: #007bff;
  border: none;
  color: #fff;
  border-radius: 5px;
  font-size: 16px;
  cursor: pointer;
  transition: background-color 0.3s ease;
}
.login-button:hover {
  background-color: #0056b3;
}
.sign-up {
  display: block;
  margin-top: 10px;
  font-size: 14px;
  color: #007bff;
  text-decoration: none;
}
.sign-up:hover {
  text-decoration: underline;
}
.text-danger {
  color: #e3342f !important;
  font-size: 0.875rem;
```

```
}
    .logo {
      display: block;
      margin: 0 auto 20px;
      width: 100px;
    }
  </style>
</head>
<body>
  <form id="form1" runat="server">
    <div class="login-container">
      <h2>Log In</h2>
      <div class="login-box">
        <asp:Image ID="LogoImage" runat="server" ImageUrl="loginpage.png" CssClass="logo" />
        <asp:Label ID="Label1" runat="server" AssociatedControlID="uname" CssClass="form-label"</pre>
Text="Username"></asp:Label>
        <asp:TextBox ID="uname" runat="server" CssClass="form-input" placeholder="Enter your
username or email"></asp:TextBox>
        <asp:Label ID="Label2" runat="server" AssociatedControlID="passw" CssClass="form-label"
Text="Password"></asp:Label>
        <asp:TextBox ID="passw" runat="server" CssClass="form-input" TextMode="Password"
placeholder="Enter your password"></asp:TextBox>
        <asp:Button ID="Button1" runat="server" CssClass="login-button" OnClick="Button1_Click"</pre>
Text="Login" />
        <asp:HyperLink ID="SignUpLink" runat="server" NavigateUrl="SignupForm.aspx"
CssClass="sign-up">Create an Account</asp:HyperLink>
      </div>
    </div>
  </form>
</body>
</html>
LoginForm.aspx.cs
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Web.UI;
using System.Web.UI.WebControls;
using System.Configuration;
```

```
using Oracle.ManagedDataAccess.Client;
using System.Data;
namespace Fitness_Tracker
  public partial class LoginForm: System.Web.UI.Page
    SqlConnection conn = new SqlConnection(@"Data
Source=(LocalDB)\MSSQLLocalDB;AttachDbFilename=C:\Users\jatin\source\repos\Fitness_Tracker\Fi
tness_Tracker\App_Data\Database1.mdf;Integrated Security=True");
    protected void Page_Load(object sender, EventArgs e)
    {
      if (Session["username"] != null)
        Response.Redirect("HomeForm.aspx");
      if (conn.State==ConnectionState.Open)
        conn.Close();
      }
      conn.Open();
    protected void Button1_Click(object sender, EventArgs e)
      SqlCommand cmd = conn.CreateCommand();
      cmd.CommandType = CommandType.Text;
      cmd.CommandText = "select count(*) from users where un=@username and ps=@password";
      cmd.Parameters.AddWithValue("@username", uname.Text);
      cmd.Parameters.AddWithValue("@password", passw.Text);
      int count = (int)cmd.ExecuteScalar();
      if (count > 0)
      {
        Session["username"] = uname.Text;
        Response.Redirect("HomeForm.aspx");
      }
      else
        ClientScript.RegisterStartupScript(this.GetType(), "alert", "alert('Wrong username or
password!');", true);
      cmd.ExecuteNonQuery();
      uname.Text = "";
      passw.Text = "";
    }
  }
}
```

#### SignupForm.aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="SignupForm.aspx.cs"
Inherits="Fitness\_Tracker.SignupForm" UnobtrusiveValidationMode="None" %>

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Signup Form</title>
  <style>
    body {
      background-image: url('deadpool.jpg');
      background-size: cover;
      background-position: center;
      background-attachment: fixed;
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      margin: 0;
      padding: 0;
      height: 100vh;
    .signup-container {
      max-width: 500px;
      margin: 50px auto;
      background-color: rgba(255, 255, 255, 0.8);
      padding: 30px;
      border-radius: 8px;
      box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
    }
    h2 {
      text-align: center;
      margin-bottom: 20px;
      color: #333;
    }
    .form-group {
      margin-bottom: 20px;
    }
    .form-control {
      border-radius: 5px;
      border: 1px solid #ced4da;
      transition: border-color 0.3s ease;
    }
```

```
.form-control:focus {
      border-color: #007bff;
      box-shadow: none;
    }
    .btn-primary {
      background-color: #007bff;
      border-color: #007bff;
      transition: background-color 0.3s ease, border-color 0.3s ease;
    .btn-primary:hover {
      background-color: #0056b3;
      border-color: #004085;
    }
    .btn-secondary {
      background-color: #6c757d;
      border-color: #6c757d;
      transition: background-color 0.3s ease, border-color 0.3s ease;
    .btn-secondary:hover {
      background-color: #5a6268;
      border-color: #4e555b;
    }
    .text-danger {
      color: #e3342f !important;
      font-size: 0.875rem;
    }
    .form-check-label {
      font-size: 0.9rem;
    }
 </style>
</head>
<body>
 <form id="form1" runat="server">
    <div class="signup-container">
      <h2>Create an Account</h2>
      <div class="row">
```

```
<div class="col-md-6 form-group">
          <asp:Label ID="lblName" runat="server" Text="Full Name"
AssociatedControlID="txtName" CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtName" runat="server" CssClass="form-control"
placeholder="Enter your full name"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvName" runat="server"
ControlToValidate="txtName" ErrorMessage="Full Name is required" CssClass="text-danger"
Display="Dynamic" />
          <asp:RegularExpressionValidator ID="revName" runat="server"
ControlToValidate="txtName" ErrorMessage="Name should not contain numbers or
symbols" ValidationExpression="^[a-zA-Z\s]+$" CssClass="text-danger" Display="Dynamic"
/>
        </div>
        <div class="col-md-6 form-group">
          <asp:Label ID="lblUsername" runat="server" Text="Username"
AssociatedControlID="txtUsername" CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtUsername" runat="server" CssClass="form-control"
placeholder="Enter your username"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvUsername" runat="server"
ControlToValidate="txtUsername" ErrorMessage="Username is required" CssClass="text-
danger" Display="Dynamic" />
         <asp:RegularExpressionValidator ID="revUsername" runat="server"
ControlToValidate="txtUsername" ErrorMessage="Username should only contain letters and
numbers" ValidationExpression="^[a-zA-Z0-9]+$" CssClass="text-danger" Display="Dynamic"
/>
        </div>
      </div>
      <div class="row">
        <div class="col-md-6 form-group">
          <asp:Label ID="lblAge" runat="server" Text="Age" AssociatedControlID="txtAge"
CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtAge" runat="server" CssClass="form-control"
placeholder="Enter your age"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvAge" runat="server"
ControlToValidate="txtAge" ErrorMessage="Age is required" CssClass="text-danger"
Display="Dynamic" />
          <asp:RegularExpressionValidator ID="revAge" runat="server"
ControlToValidate="txtAge" ErrorMessage="Age should be a whole number"
ValidationExpression="^\d+$" CssClass="text-danger" Display="Dynamic" />
        </div>
```

```
<div class="col-md-6 form-group">
           <asp:Label ID="lblGender" runat="server" Text="Gender"
AssociatedControlID="ddlGender" CssClass="font-weight-bold"></asp:Label>
          <asp:DropDownList ID="ddlGender" runat="server" CssClass="form-control">
            <asp:ListItem Text="Select Gender" Value="" />
            <asp:ListItem Text="Male" Value="Male" />
            <asp:ListItem Text="Female" Value="Female" />
            <asp:ListItem Text="Other" Value="Other" />
           </asp:DropDownList>
          <asp:RequiredFieldValidator ID="rfvGender" runat="server"
ControlToValidate="ddlGender" InitialValue="" ErrorMessage="Please select a gender"
CssClass="text-danger" Display="Dynamic" />
        </div>
      </div>
      <div class="row">
        <div class="col-md-6 form-group">
          <asp:Label ID="lblWeight" runat="server" Text="Weight (kg)"
AssociatedControlID="txtWeight" CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtWeight" runat="server" CssClass="form-control"
placeholder="Enter your weight in kg"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvWeight" runat="server"</pre>
ControlToValidate="txtWeight" ErrorMessage="Weight is required" CssClass="text-danger"
Display="Dynamic" />
          <asp:RegularExpressionValidator ID="revWeight" runat="server"
ControlToValidate="txtWeight" ErrorMessage="Weight should be a numeric value"
ValidationExpression="^\d+(\.\d+)?$" CssClass="text-danger" Display="Dynamic" />
        </div>
        <div class="col-md-6 form-group">
          <asp:Label ID="lblHeight" runat="server" Text="Height (cm)"
AssociatedControlID="txtHeight" CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtHeight" runat="server" CssClass="form-control"</pre>
placeholder="Enter your height in cm"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvHeight" runat="server"
ControlToValidate="txtHeight" ErrorMessage="Height is required" CssClass="text-danger"
Display="Dynamic" />
          <asp:RegularExpressionValidator ID="revHeight" runat="server"
ControlToValidate="txtHeight" ErrorMessage="Height should be a numeric value"
ValidationExpression="^\d+(\.\d+)?$" CssClass="text-danger" Display="Dynamic" />
        </div>
      </div>
```

```
<div class="row">
        <div class="col-md-6 form-group">
          <asp:Label ID="lblPassword" runat="server" Text="Password"
AssociatedControlID="txtPassword" CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtPassword" runat="server" TextMode="Password"
CssClass="form-control" placeholder="Enter your password"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvPassword" runat="server"
ControlToValidate="txtPassword" ErrorMessage="Password is required" CssClass="text-
danger" Display="Dynamic" />
          <asp:RegularExpressionValidator ID="revPassword" runat="server"
ControlToValidate="txtPassword" ErrorMessage="Password must be at least 8 characters
long" ValidationExpression="^.{8,}$" CssClass="text-danger" Display="Dynamic" />
        </div>
        <div class="col-md-6 form-group">
          <asp:Label ID="lblConfirmPassword" runat="server" Text="Confirm Password"
AssociatedControlID="txtConfirmPassword" CssClass="font-weight-bold"></asp:Label>
          <asp:TextBox ID="txtConfirmPassword" runat="server" TextMode="Password"
CssClass="form-control" placeholder="Re-enter your password"></asp:TextBox>
          <asp:RequiredFieldValidator ID="rfvConfirmPassword" runat="server"</pre>
ControlToValidate="txtConfirmPassword" ErrorMessage="Please confirm your password"
CssClass="text-danger" Display="Dynamic" />
          <asp:CompareValidator ID="cvPassword" runat="server"
ControlToCompare="txtPassword" ControlToValidate="txtConfirmPassword"
ErrorMessage="Passwords do not match" CssClass="text-danger" Display="Dynamic" />
        </div>
      </div>
      <div class="form-group">
        <asp:Button ID="btnSubmit" runat="server" Text="Sign Up" CssClass="btn btn-
primary btn-block" OnClick="btnSubmit Click" />
        <asp:Button ID="btnReset" runat="server" Text="Reset" CssClass="btn btn-
secondary btn-block" OnClick="btnReset Click" CausesValidation="false" />
      </div>
      <asp:HyperLink ID="LoginLink" runat="server" NavigateUrl="LoginForm.aspx"
CssClass="sign-up">Have Account Login</asp:HyperLink>
    </div>
  </form>
</body>
</html>
```

#### SignupForm.aspx.cs

```
using System;
using System. Data;
using System.Data.SqlClient;
using System.Web.UI;
namespace Fitness Tracker
  public partial class SignupForm: System.Web.UI.Page
 {
    SqlConnection conn = new SqlConnection(@"Data
Source=(LocalDB)\MSSQLLocalDB;AttachDbFilename=C:\Users\jatin\source\repos\Fitness T
racker\Fitness_Tracker\App_Data\Database1.mdf;Integrated Security=True");
    protected void Page_Load(object sender, EventArgs e)
      if (conn.State == ConnectionState.Open)
        conn.Close();
      conn.Open();
    protected void btnSubmit Click(object sender, EventArgs e)
      SqlCommand checkUsernameCmd = new SqlCommand("SELECT COUNT(*) FROM
users WHERE un = @username", conn);
      checkUsernameCmd.Parameters.AddWithValue("@username", txtUsername.Text);
      int userExists = (int)checkUsernameCmd.ExecuteScalar();
      if (userExists > 0)
        ScriptManager.RegisterStartupScript(this, this.GetType(), "alert", "alert('Username
already exists. Please choose a different username.');", true);
      }
      else
        SqlCommand cmd = conn.CreateCommand();
        cmd.CommandType = CommandType.Text;
        cmd.CommandText = "INSERT INTO users (un, ps, name, age, gender, weight,
height) VALUES (@username, @password, @name, @age, @gender, @weight, @height)";
        cmd.Parameters.AddWithValue("@username", txtUsername.Text);
```

```
cmd.Parameters.AddWithValue("@password", txtPassword.Text);
        cmd.Parameters.AddWithValue("@name", txtName.Text);
        cmd.Parameters.AddWithValue("@age", txtAge.Text);
        cmd.Parameters.AddWithValue("@gender", ddlGender.Text);
        cmd.Parameters.AddWithValue("@weight", txtWeight.Text);
        cmd.Parameters.AddWithValue("@height", txtHeight.Text);
        int count = cmd.ExecuteNonQuery();
        if (count > 0)
        {
          ScriptManager.RegisterStartupScript(this, this.GetType(), "alert",
"alert('Successfully Signed Up! Ready to Login.'); window.location='LoginForm.aspx';", true);
        }
        else
        {
          ScriptManager.RegisterStartupScript(this, this.GetType(), "alert", "alert('Failed to
sign up. Please try again!');", true);
        }
      }
    }
    protected void btnReset_Click(object sender, EventArgs e)
      txtName.Text = "";
      txtUsername.Text = "";
      txtAge.Text = "";
      ddlGender.SelectedIndex = 0;
      txtWeight.Text = "";
      txtHeight.Text = "";
      txtPassword.Text = "";
      txtConfirmPassword.Text = "";
    }
 }
}
```

#### WorkoutForm.aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WorkoutForm.aspx.cs"
Inherits="Fitness\_Tracker.WorkoutForm" UnobtrusiveValidationMode="None" %>

```
<!DOCTYPE html>
<head runat="server">
  <title>Log Workout</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f4f4f4;
      margin: 0;
      padding: 0;
    }
    form {
      max-width: 800px;
      margin: 50px auto;
      background-color: #fff;
      padding: 20px;
      border-radius: 8px;
      box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    }
    h2 {
      text-align: center;
      margin-bottom: 20px;
      color: #333;
    }
    .form-group {
      margin-bottom: 15px;
    }
    .form-group label {
      display: block;
      margin-bottom: 5px;
      color: #555;
    }
    .form-control {
      width: 100%;
      padding: 10px;
      border-radius: 4px;
      border: 1px solid #ddd;
      box-sizing: border-box;
    }
```

```
.btn {
  padding: 10px 20px;
  border-radius: 4px;
  border: none;
  cursor: pointer;
}
.btn-primary {
  background-color: #007bff;
  color: white;
}
.btn-secondary {
  background-color: #6c757d;
  color: white;
  margin-bottom: 20px;
}
.btn-danger {
  background-color: #dc3545;
  color: white;
}
.btn:hover {
  opacity: 0.9;
}
.exercise-container {
  margin-top: 20px;
  margin-bottom: 20px;
  background-color: #f8f9fa;
  padding: 15px;
  border-radius: 5px;
  border: 1px solid #ddd;
}
.exercise-item {
  margin-bottom: 20px;
  padding: 10px;
  border: 1px solid #ddd;
  border-radius: 5px;
  background-color: #ffffff;
}
.exercise-item .form-group {
  margin-bottom: 10px;
}
```

```
.remove-exercise {
      margin-top: 10px;
      float: right;
    }
    hr {
      border-top: 1px solid #ddd;
    }
    .text-danger {
      color: #dc3545;
    }
  </style>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <h2>Log Workout</h2>
      <asp:ValidationSummary ID="ValidationSummary1" runat="server" CssClass="text-danger" />
      <div class="form-group">
        <asp:Label ID="lblWorkoutType" runat="server" Text="Workout Type" CssClass="control-</pre>
label" Font-Bold="True" Font-Italic="False" Font-Overline="False" ForeColor="#3399FF"></asp:Label>
        <asp:TextBox ID="txtWorkoutType" runat="server" CssClass="form-control"></asp:TextBox>
        <asp:RequiredFieldValidator ID="rfvWorkoutType" runat="server"
ControlToValidate="txtWorkoutType" ErrorMessage="Workout type is required." CssClass="text-
danger" />
      </div>
      <div class="form-group">
        <asp:Label ID="lblDuration" runat="server" Text="Duration (minutes)" CssClass="control-
label" Font-Bold="True" ForeColor="#3399FF"></asp:Label>
        <asp:TextBox ID="txtDuration" runat="server" CssClass="form-control"></asp:TextBox>
        <asp:RequiredFieldValidator ID="rfvDuration" runat="server"
ControlToValidate="txtDuration" ErrorMessage="Duration is required." CssClass="text-danger" />
        <asp:RangeValidator ID="rvDuration" runat="server" ControlToValidate="txtDuration"</p>
MinimumValue="1" MaximumValue="1440" Type="Integer" ErrorMessage="Please enter a valid
duration (1-1440 minutes)." CssClass="text-danger" />
      </div>
      <div class="form-group">
        <asp:Label ID="lblCaloriesBurned" runat="server" Text="Calories Burned"
CssClass="control-label" Font-Bold="True" ForeColor="#3399FF"></asp:Label>
        <asp:TextBox ID="txtCaloriesBurned" runat="server" CssClass="form-
control"></asp:TextBox>
        <asp:RequiredFieldValidator ID="rfvCaloriesBurned" runat="server"
ControlToValidate="txtCaloriesBurned" ErrorMessage="Calories burned is required." CssClass="text-
danger" />
```

```
<asp:RangeValidator ID="rvCaloriesBurned" runat="server"
ControlToValidate="txtCaloriesBurned" MinimumValue="1" MaximumValue="10000" Type="Integer"
ErrorMessage="Please enter a valid number of calories burned." CssClass="text-danger" />
      </div>
      <div class="form-group">
        <asp:Label ID="lblDate" runat="server" Text="Workout Date" CssClass="control-label" Font-
Bold="True" ForeColor="#3399FF"></asp:Label>
        <asp:TextBox ID="txtDate" runat="server" CssClass="form-control"
TextMode="Date"></asp:TextBox>
        <asp:RequiredFieldValidator ID="rfvDate" runat="server" ControlToValidate="txtDate"</pre>
ErrorMessage="Date is required." CssClass="text-danger" />
      </div>
      <div class="form-group">
        <asp:Label ID="lblNumberOfExercises" runat="server" Text="Number of Exercises"
CssClass="control-label" Font-Bold="True" ForeColor="#3399FF"></asp:Label>
        <asp:TextBox ID="txtNumberOfExercises" runat="server" CssClass="form-
control"></asp:TextBox>
        <asp:RequiredFieldValidator ID="rfvNumberOfExercises" runat="server"</pre>
ControlToValidate="txtNumberOfExercises" ErrorMessage="Number of exercises is required."
CssClass="text-danger" />
        <asp:RangeValidator ID="rvNumberOfExercises" runat="server"
ControlToValidate="txtNumberOfExercises" MinimumValue="1" MaximumValue="50"
Type="Integer" ErrorMessage="Please enter a valid number of exercises (1-50)." CssClass="text-
danger" />
      </div>
      <div class="form-group">
        <asp:Button ID="btnAddExercises" runat="server" Text="Add Exercises" CssClass="btn btn-
secondary" OnClick="btnAddExercises Click" />
      </div>
      <div class="exercise-container" id="exerciseContainer" runat="server">
      </div>
      <div class="form-group">
        <asp:Button ID="btnSave" runat="server" Text="Save Workout" CssClass="btn btn-primary"
OnClick="btnSave Click" />
        <asp:Button ID="btncancel" runat="server" Text="Cancel" CssClass="btn btn-primary"</pre>
OnClick="btnCancel_Click" CausesValidation="False"/>
      </div>
    </div>
  </form>
</body>
</html>
```

#### WorkoutForm.aspx.cs

```
using System;
using System.Data;
using System.Data.SqlClient;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace Fitness_Tracker
  public partial class WorkoutForm: System.Web.UI.Page
    SqlConnection conn = new SqlConnection(@"Data
Source=(LocalDB)\MSSQLLocalDB;AttachDbFilename=C:\Users\jatin\source\repos\Fitness_Tracker\Fi
tness_Tracker\App_Data\Database1.mdf;Integrated Security=True");
    private int NumberOfExercises
      get
        return ViewState["NumberOfExercises"] != null ? (int)ViewState["NumberOfExercises"] : 0;
      }
      set
      {
        ViewState["NumberOfExercises"] = value;
      }
    }
    protected void Page_Load(object sender, EventArgs e)
    {
      if (!IsPostBack)
      {
        txtDate.Text = DateTime.Now.ToString("yyyy-MM-dd");
      }
      if (conn.State == ConnectionState.Open)
        conn.Close();
      conn.Open();
      RecreateExerciseControls();
    }
    protected void btnSave_Click(object sender, EventArgs e)
    {
      try
```

```
{
        string username = Session["Username"] as string;
        SqlCommand cmd = conn.CreateCommand();
        cmd.CommandType = CommandType.Text;
        cmd.CommandText = "INSERT INTO Workouts (WorkoutType, Duration, CaloriesBurned,
WorkoutDate, Username) OUTPUT INSERTED.Id VALUES (@WorkoutType, @Duration,
@CaloriesBurned, @WorkoutDate, @Username)";
        cmd.Parameters.AddWithValue("@WorkoutType", txtWorkoutType.Text);
        cmd.Parameters.AddWithValue("@Duration", int.Parse(txtDuration.Text));
        cmd.Parameters.AddWithValue("@CaloriesBurned", int.Parse(txtCaloriesBurned.Text));
        cmd.Parameters.AddWithValue("@WorkoutDate", DateTime.Parse(txtDate.Text));
        cmd.Parameters.AddWithValue("@Username", username);
        int workoutId = (int)cmd.ExecuteScalar();
        for (int i = 0; i < NumberOfExercises; i++)
          string exerciseName =
((TextBox)exerciseContainer.FindControl($"exerciseName {i}")).Text;
          int sets = int.Parse(((TextBox)exerciseContainer.FindControl($"exerciseSets_{i}")).Text);
          int reps = int.Parse(((TextBox)exerciseContainer.FindControl($"exerciseReps_(i)")).Text);
          SqlCommand cmdExercise = conn.CreateCommand();
          cmdExercise.CommandType = CommandType.Text;
          cmdExercise.CommandText = "INSERT INTO Exercises (WorkoutId, ExerciseName, Sets,
Reps) VALUES (@Workoutld, @ExerciseName, @Sets, @Reps)";
          cmdExercise.Parameters.AddWithValue("@WorkoutId", workoutId);
          cmdExercise.Parameters.AddWithValue("@ExerciseName", exerciseName);
          cmdExercise.Parameters.AddWithValue("@Sets", sets);
          cmdExercise.Parameters.AddWithValue("@Reps", reps);
          cmdExercise.ExecuteNonQuery();
        }
        Response.Write("<script>alert('Workout and exercises saved successfully!');</script>");
        ClearForm();
      catch (Exception ex)
        Response.Write("<script>alert('An error occurred: " + ex.Message + "');</script>");
      }
    }
```

```
protected void btnAddExercises_Click(object sender, EventArgs e)
  NumberOfExercises = int.Parse(txtNumberOfExercises.Text);
  AddExerciseControls(NumberOfExercises);
}
private void AddExerciseControls(int count)
  for (int i = 0; i < count; i++)
  {
    if (exerciseContainer.FindControl($"exercisePanel {i}") == null)
      Panel exercisePanel = new Panel();
      exercisePanel.ID = $"exercisePanel {i}";
      exercisePanel.CssClass = "exercise-item";
      Label lblExerciseName = new Label();
      lblExerciseName.Text = "Exercise Name:";
      lblExerciseName.CssClass = "control-label";
      exercisePanel.Controls.Add(lblExerciseName);
      TextBox txtExerciseName = new TextBox();
      txtExerciseName.ID = $"exerciseName_{i}";
      txtExerciseName.CssClass = "form-control";
      exercisePanel.Controls.Add(txtExerciseName);
      Label lblSets = new Label();
      lblSets.Text = "Sets:";
      lblSets.CssClass = "control-label";
      exercisePanel.Controls.Add(lblSets);
      TextBox txtSets = new TextBox();
      txtSets.ID = $"exerciseSets {i}";
      txtSets.CssClass = "form-control";
      exercisePanel.Controls.Add(txtSets);
      Label lblReps = new Label();
      lblReps.Text = "Reps:";
      lblReps.CssClass = "control-label";
      exercisePanel.Controls.Add(lblReps);
```

```
TextBox txtReps = new TextBox();
        txtReps.ID = $"exerciseReps {i}";
        txtReps.CssClass = "form-control";
        exercisePanel.Controls.Add(txtReps);
        Button btnRemove = new Button();
        btnRemove.Text = "Remove";
        btnRemove.CssClass = "btn btn-danger remove-exercise";
        btnRemove.Click += (s, args) => { exerciseContainer.Controls.Remove(exercisePanel); };
        exercisePanel.Controls.Add(btnRemove);
        exerciseContainer.Controls.Add(exercisePanel);
      }
    }
  }
  private void RecreateExerciseControls()
  {
    AddExerciseControls(NumberOfExercises);
  }
  private void ClearForm()
    txtWorkoutType.Text = "";
    txtDuration.Text = "";
    txtCaloriesBurned.Text = "";
    txtDate.Text = DateTime.Now.ToString("yyyy-MM-dd");
    txtNumberOfExercises.Text = "";
    exerciseContainer.Controls.Clear();
    NumberOfExercises = 0;
  }
  protected void btnCancel_Click(object sender, EventArgs e)
    Response.Redirect("HomeForm.aspx");
  }
}
```

#### HomeForm.aspx

```
<@ Page Language="C#" AutoEventWireup="true" CodeBehind="HomeForm.aspx.cs"
Inherits="Fitness_Tracker.HomeForm" %>
<!DOCTYPE html>
<head runat="server">
  <title>Home</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 0;
    }
    .navbar {
      background-color: #007bff;
      color: white;
      padding: 10px;
      display: flex;
      align-items: center;
      justify-content: space-between;
    }
    .navbar-content {
      display: flex;
      align-items: center;
      flex-grow: 1;
    }
    .navbar-left {
      flex: 1;
    }
    .navbar-right {
      margin-left: auto;
    }
    .navbar span {
      color: white;
      text-decoration: none;
      padding: 10px;
      font-size: 16px;
      font-weight: bold;
      background-color: #0056b3;
      border-radius: 5px;
    }
    .navbar a {
```

```
color: black;
  text-decoration: none;
  padding: 10px;
  font-size: 16px;
  font-weight: bold;
}
.navbar a:hover {
  background-color: #0056b3;
  border-radius: 5px;
}
.navbar-link {
  color: white;
  text-decoration: none;
  padding: 10px;
  font-size: 16px;
  font-weight: bold;
}
.navbar-link:hover {
  background-color: transparent;
  text-decoration-color: red;
}
.logout-button {
  background-color: #dc3545;
  color: white;
  border: none;
  padding: 10px 20px;
  border-radius: 5px;
  cursor: pointer;
}
.logout-button:hover {
  background-color: #c82333;
}
.workout-table {
  width: 100%;
  border-collapse: collapse;
  margin: 20px 0;
}
.workout-table th, .workout-table td {
  border: 1px solid #ddd;
  padding: 8px;
}
```

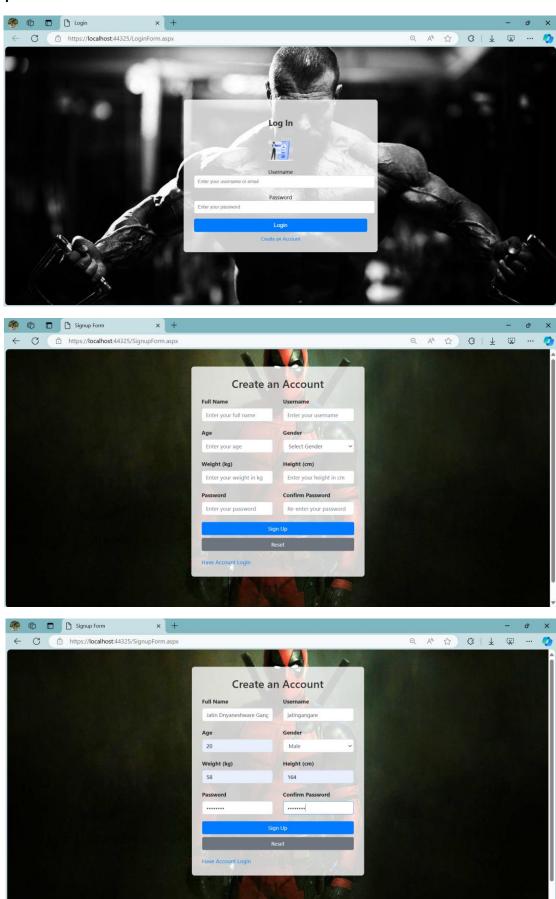
```
.workout-table th {
      background-color: #f4f4f4;
    }
    .user-info-table {
      width: 100%;
      margin: 20px 0;
      border-collapse: collapse;
    }
    .user-info-table th, .user-info-table td {
      border: 1px solid #ddd;
      padding: 8px;
    }
    .user-info-table th {
      background-color: #f4f4f4;
    }
  </style>
</head>
<body>
  <form id="form1" runat="server">
    <div class="navbar">
      <div class="navbar-left">
        <span>Fitness Tracker</span>
      </div>
      <div class="navbar-content">
        <asp:HyperLink ID="addWorkout" runat="server" NavigateUrl="WorkoutForm.aspx"
CssClass="navbar-link" Font-Bold="True">Add Workout</asp:HyperLink>
      </div>
      <div class="navbar-right">
        <asp:Button ID="btnLogout" runat="server" Text="Logout" CssClass="logout-button"</pre>
OnClick="btnLogout_Click" />
      </div>
    </div>
    <asp:GridView ID="gvUserInfo" runat="server" AutoGenerateColumns="False" CssClass="user-
info-table">
      <Columns>
        <asp:BoundField DataField="name" HeaderText="Name" />
        <asp:BoundField DataField="age" HeaderText="Age" />
        <asp:BoundField DataField="gender" HeaderText="Gender" />
        <asp:BoundField DataField="weight" HeaderText="Weight (kg)" />
        <asp:BoundField DataField="height" HeaderText="Height (cm)" />
        <asp:BoundField DataField="BMI" HeaderText="BMI" />
        <asp:BoundField DataField="BMR" HeaderText="BMR" />
      </Columns>
```

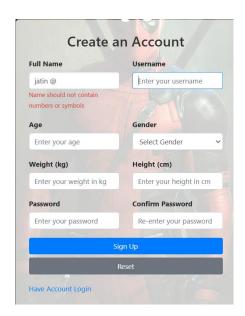
```
</asp:GridView>
    <asp:GridView ID="gvWorkouts" runat="server" AutoGenerateColumns="False"
CssClass="workout-table">
      <Columns>
        <asp:BoundField DataField="WorkoutType" HeaderText="Workout Type" />
        <asp:BoundField DataField="Duration" HeaderText="Duration (minutes)" />
        <asp:BoundField DataField="CaloriesBurned" HeaderText="Calories Burned" />
        <asp:BoundField DataField="WorkoutDate" HeaderText="Workout Date" />
        <asp:TemplateField HeaderText="Exercises">
          <ItemTemplate>
            <asp:GridView ID="gvExercises" runat="server" AutoGenerateColumns="False"
CssClass="workout-table">
              <Columns>
                <asp:BoundField DataField="ExerciseName" HeaderText="Exercise Name" />
                <asp:BoundField DataField="Sets" HeaderText="Sets" />
                <asp:BoundField DataField="Reps" HeaderText="Reps" />
              </Columns>
            </asp:GridView>
          </ltemTemplate>
        </asp:TemplateField>
      </Columns>
    </asp:GridView>
  </form>
</body>
</html>
HomeForm.aspx.cs
using System;
using System.Data;
using System.Data.SqlClient;
using System.Web.UI.WebControls;
namespace Fitness_Tracker
{
  public partial class HomeForm: System.Web.UI.Page
    SqlConnection conn = new SqlConnection(@"Data
Source=(LocalDB)\MSSQLLocalDB;AttachDbFilename=C:\Users\jatin\source\repos\Fitness_Tracker\Fi
tness_Tracker\App_Data\Database1.mdf;Integrated Security=True");
    protected void Page_Load(object sender, EventArgs e)
    {
      if (Session["Username"] == null)
        Response.Redirect("LoginForm.aspx");
      }
```

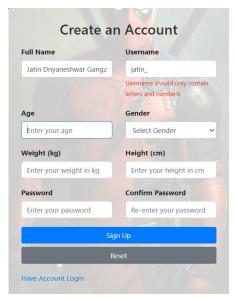
```
else
        if (!IsPostBack)
          LoadUserInfo();
          LoadWorkouts();
        }
      }
    }
    protected void btnLogout_Click(object sender, EventArgs e)
      Session.Clear();
      Session.Abandon();
      Response.Redirect("LoginForm.aspx");
    }
    private void LoadUserInfo()
      string username = Session["Username"] as string;
      using (SqlCommand cmd = new SqlCommand("SELECT name, age, gender, weight, height
FROM users WHERE un = @Username", conn))
      {
        cmd.Parameters.AddWithValue("@Username", username);
        SqlDataAdapter da = new SqlDataAdapter(cmd);
        DataTable dtUserInfo = new DataTable();
        da.Fill(dtUserInfo);
        if (dtUserInfo.Rows.Count > 0)
          DataRow row = dtUserInfo.Rows[0];
          double weight = Convert.ToDouble(row["weight"]);
          double height = Convert.ToDouble(row["height"]);
          int age = Convert.ToInt32(row["age"]);
          string gender = Convert.ToString(row["gender"]);
          double bmi = weight / Math.Pow(height / 100, 2);
          double bmr = 0;
          bmr = 88.362 + (13.397 * weight) + (4.799 * height) - (5.677 * age);
          dt User Info. Columns. Add ("BMI", type of (double));\\
          dtUserInfo.Columns.Add("BMR", typeof(double));
          row["BMI"] = Math.Round(bmi, 2);
          row["BMR"] = Math.Round(bmr, 2);
```

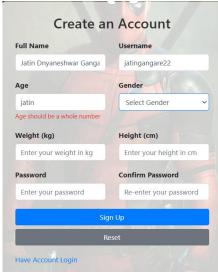
```
gvUserInfo.DataSource = dtUserInfo;
          gvUserInfo.DataBind();
        }
     }
    private void LoadWorkouts()
      string username = Session["Username"] as string;
      using (SqlCommand cmd = new SqlCommand("SELECT Id, WorkoutType, Duration,
CaloriesBurned, WorkoutDate FROM Workouts WHERE Username = @Username", conn))
        cmd.Parameters.AddWithValue("@Username", username);
        SqlDataAdapter da = new SqlDataAdapter(cmd);
        DataTable dtWorkouts = new DataTable();
        da.Fill(dtWorkouts);
        gvWorkouts.DataSource = dtWorkouts;
        gvWorkouts.DataBind();
        foreach (GridViewRow row in gvWorkouts.Rows)
          int workoutId = Convert.ToInt32(dtWorkouts.Rows[row.RowIndex]["Id"]);
          GridView gvExercises = (GridView)row.FindControl("gvExercises");
          using (SqlCommand cmdExercises = new SqlCommand("SELECT ExerciseName, Sets, Reps
FROM Exercises WHERE WorkoutId = @WorkoutId", conn))
            cmdExercises.Parameters.AddWithValue("@WorkoutId", workoutId);
            SqlDataAdapter daExercises = new SqlDataAdapter(cmdExercises);
            DataTable dtExercises = new DataTable();
            daExercises.Fill(dtExercises);
            gvExercises.DataSource = dtExercises;
            gvExercises.DataBind();
          }
       }
     }
   }
 }
```

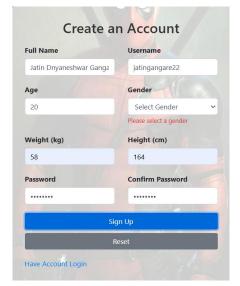
#### Output:

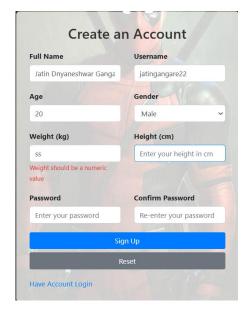


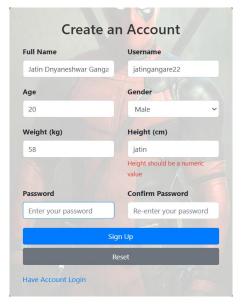


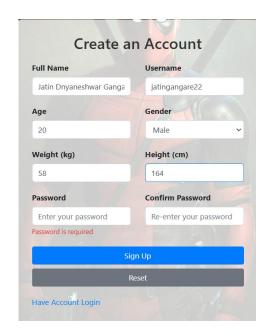


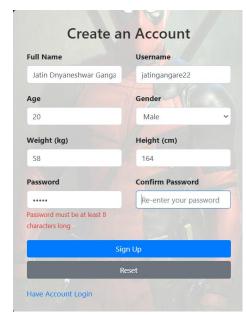


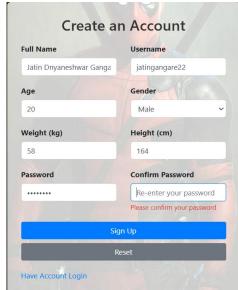


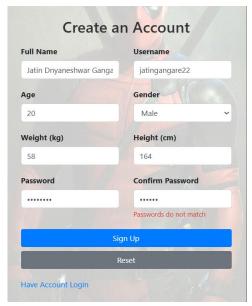


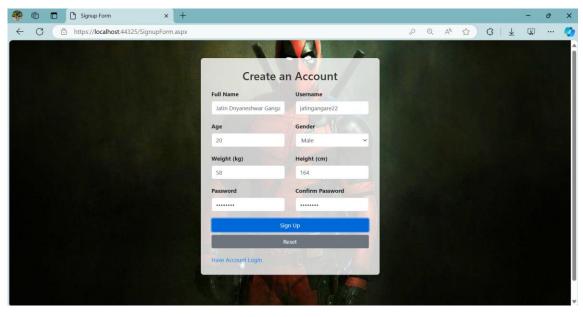


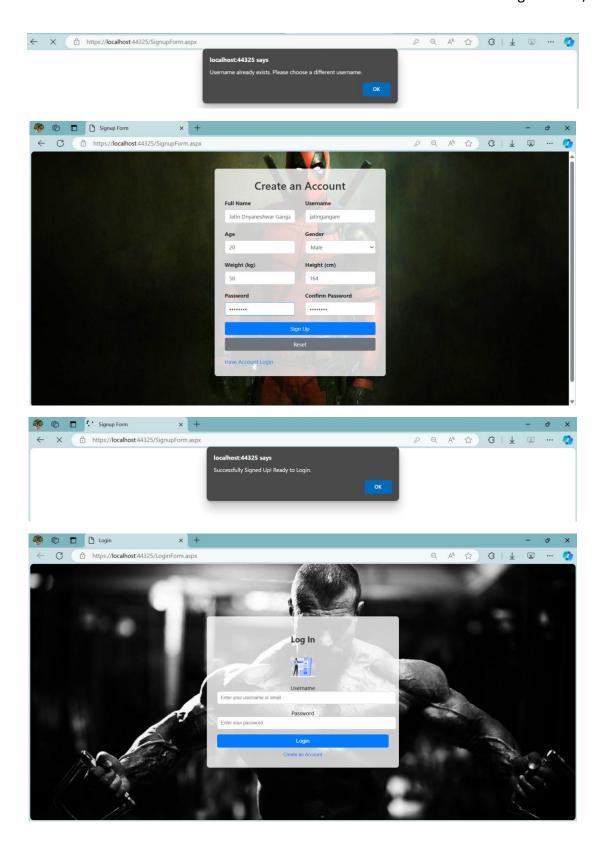


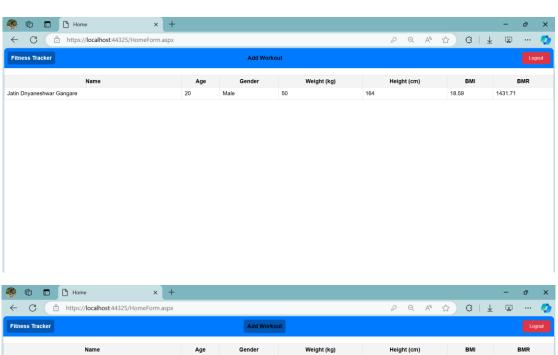


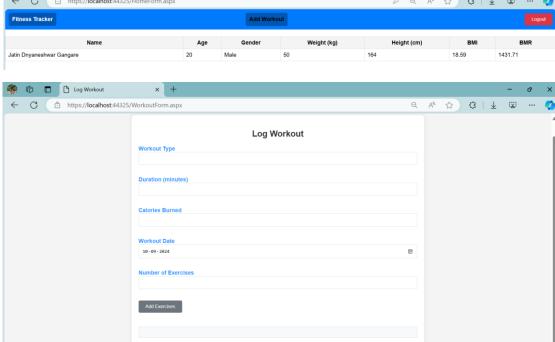


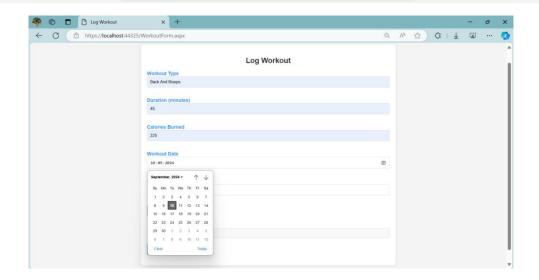


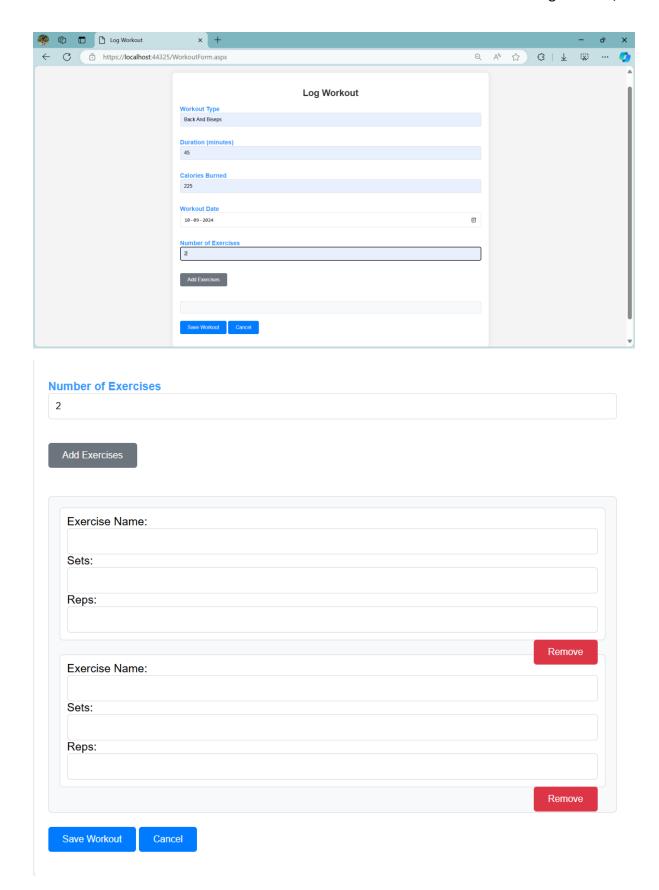


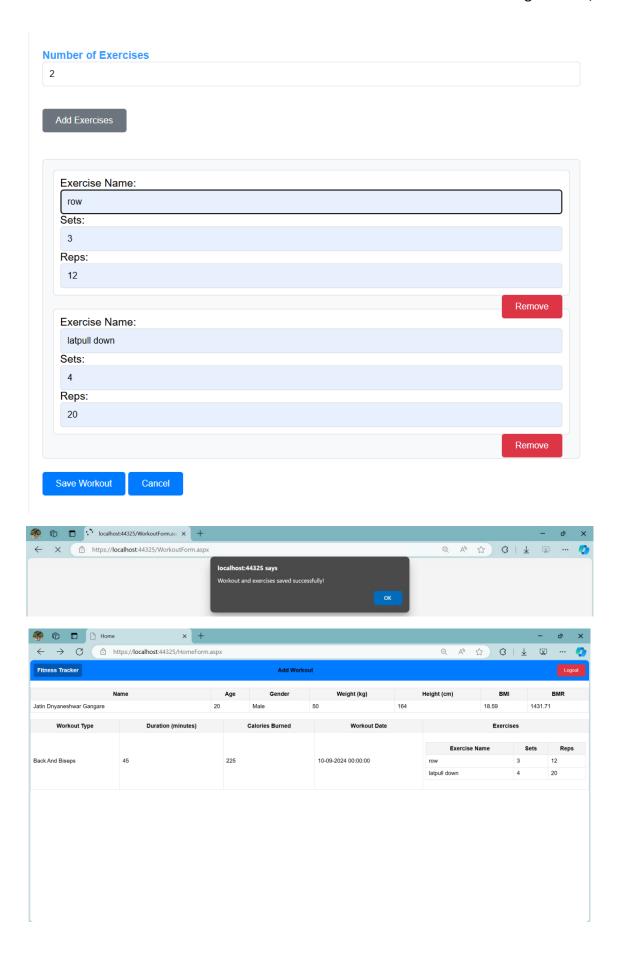


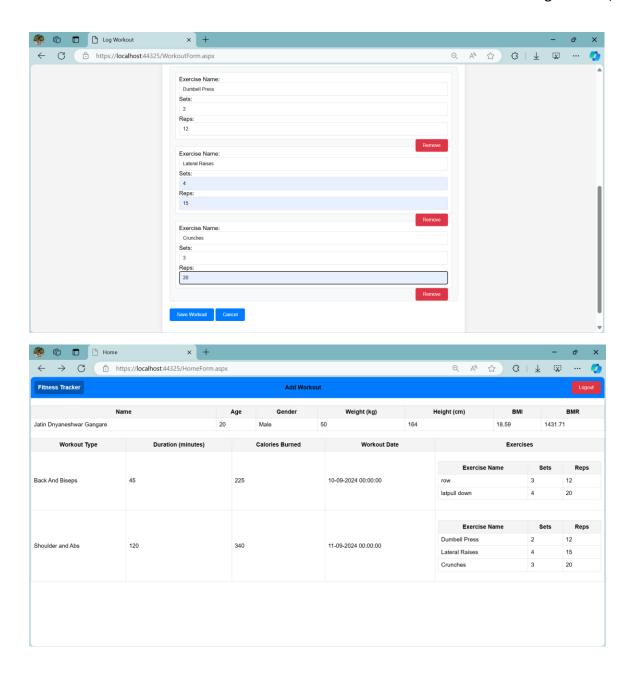












#### **Conclusion:**

The Fitness Tracker Web Application offers users an efficient and user-friendly platform to monitor their workouts, exercises, and personal fitness data such as BMI and BMR. The application's intuitive design and real-time updates make it easy for users to track their progress and stay motivated. By using ASP.NET Web Forms and C#, the application ensures a smooth and dynamic user experience, allowing for easy management of workout routines and personalized feedback.

With the integration of a SQL Server database, the application securely stores user information and workout logs. This robust database structure enables reliable data retrieval and storage, supporting comprehensive reporting and analysis. Features like dynamic exercise management make the system adaptable and personalized for each user, allowing for custom workout plans and efficient tracking of fitness goals.

While the application fulfills its core purpose, there is potential for further improvements, such as enhancing the user interface with more engaging graphics and interactive elements. Adding more fitness tracking features, such as integration with wearable devices or advanced analytics, and expanding support for mobile devices could further enhance the user experience and accessibility.

Overall, this project demonstrates the effective use of web development techniques to create a functional and practical fitness tracking tool. It not only serves its purpose but also provides a solid foundation for future growth and enhancements, setting the stage for advanced features and broader user engagement.