```
 1  using System;
 2  using System.Collections.Generic;
 3  using System.ComponentModel;
 4  using System.Data;
 5  using System.Drawing;
 6  using System.Linq;
 7  using System.Text;
 8  using System.Threading.Tasks;
 9  using System.Windows.Forms;
10
11  namespace Car_Soccer
12  {
13
14      public partial class Form1 : Form
15      {
16          private List<Goal> _goals;
17          private List<Player> _players;
18          private List<Computer> _computers;
19          private bool keyPress;
20          private Ball _ball;
21          private int redScore;
22          private int blueScore;
23
24          public Form1()
25          {
26              InitializeComponent();
27              _goals = new List<Goal>();
28              _players = new List<Player>();
29              _computers = new List<Computer>();
30              _players.Add(new Player(pictureBox1.Width / 4,                      ⇗
                   pictureBox1.Height / 2, Team.Blue, "car_blue.png"));
31              _computers.Add(new Computer((pictureBox1.Width / 4) * 3,            ⇗
                   pictureBox1.Height / 2, Team.Red, "car_red.png"));
32              _goals.Add(new Goal(30, pictureBox1.Height / 2, 60, 150,            ⇗
                   Team.Blue,"goal_sprite.png"));
33              _goals.Add(new Goal(pictureBox1.Width - 30, pictureBox1.Height /   ⇗
                   2, 60, 150, Team.Red, "goal_sprite2.png"));
34              _ball = new Ball(pictureBox1);
35              keyPress = false;
36              redScore = 0;
37              blueScore = 0;
38              MessageBox.Show("Welcome to my Game\nYou are the blue car\nYour     ⇗
                   goal is to hit the ball into the goal\nOn the right side of the ⇗
                   screen\nHowever you are facing a computer player\nTo control    ⇗
                   your car you must push and hold the space key\nWhile holding    ⇗
                   said key you will deccelerate and turn\nEvery time you press the⇗
                    key you will turn in the opposite direction\nWhile the key is  ⇗
                   released you will accelerate\nFirst to 5 goals wins\nGood Luck   ⇗
                   and Have Fun");
39              _animationTimer.Enabled = true;
40          }
41
42          private void AnimationTimerTick(object sender, EventArgs e)
43          {
44              foreach (Player car in _players)
45              {
```

```csharp
46                    car.Advance();
47                    car.WallCollide(pictureBox1);
48                    car.IfOOB(pictureBox1);
49                }
50                foreach (Computer car in _computers)
51                {
52                    car.Advance(_ball);
53                    car.WallCollide(pictureBox1);
54                    car.IfOOB(pictureBox1);
55                }
56                _ball.IsCollide(_players,_computers);
57                _ball.Advance();
58                _ball.IfOOB(pictureBox1);
59                switch (_ball.IsInGoal(_goals))
60                {
61                    case Team.Red:
62                        redScore += 1;
63                        _ball.Reset(pictureBox1);
64                        break;
65                    case Team.Blue:
66                        blueScore += 1;
67                        _ball.Reset(pictureBox1);
68                        break;
69                    default:
70                        break;
71                }
72                _ball.WallCollide(pictureBox1);
73                if(redScore >= 5)
74                {
75                    GameEnd(Team.Red);
76                }
77                else if(blueScore >= 5)
78                {
79                    GameEnd(Team.Blue);
80                }
81                pictureBox1.Refresh();
82
83            }
84
85            private void Form1_KeyDown(object sender, KeyEventArgs e)
86            {
87                if (!keyPress)
88                {
89                    foreach (Player player in _players)
90                    {
91                        player.InputDown(e);
92                    }
93                    keyPress = true;
94                }
95            }
96            private void Form1_KeyUp(object sender, KeyEventArgs e)
97            {
98                if (keyPress)
99                {
100                   foreach (Player player in _players)
101                   {
```

```
102                    player.InputUp(e);
103                }
104                keyPress = false;
105            }
106        }
107        private void Draw(Graphics paper)
108        {
109            DrawField(paper);
110            foreach (Car car in _players)
111            {
112                car.Draw(paper);
113            }
114            foreach (Car car in _computers)
115            {
116                car.Draw(paper);
117            }
118            foreach(Goal goal in _goals)
119            {
120                goal.Draw(paper);
121            }
122            _ball.Draw(paper);
123        }
124        private void pictureBox1_Paint(object sender, PaintEventArgs e)
125        {
126            Graphics paper = e.Graphics;
127            Draw(paper);
128        }
129        private double DegToRad(double degrees)
130        {
131            return degrees / 180 * Math.PI;
132        }
133        private void DrawField(Graphics paper)
134        {
135            //Brush br = new SolidBrush(Color.LightGreen);
136            //paper.FillRectangle(br, 0, 0, pictureBox1.Width,          ⏎
                 pictureBox1.Height);
137            Brush br = new SolidBrush(Color.Black);
138            paper.FillRectangle(br, 0, 0, 60, pictureBox1.Height);
139            paper.FillRectangle(br, pictureBox1.Width - 60, 0,          ⏎
                 pictureBox1.Width, pictureBox1.Height);
140            FontFamily fontFamily = new FontFamily("Comic sans MS");
141            Font font = new Font(
142                fontFamily,
143                16,
144                FontStyle.Regular);
145            br = new SolidBrush(Color.Red);
146            paper.DrawString("Red Score: " + redScore.ToString(), font, br,   ⏎
                 pictureBox1.Width - 200, 0);
147            br = new SolidBrush(Color.Blue);
148            paper.DrawString("Blue Score: " + blueScore.ToString(), font, br,  ⏎
                 60, 0);
149        }
150        private void GameEnd(Team team)
151        {
152            _animationTimer.Enabled = false;
153            MessageBox.Show(team.ToString() + " team wins!");
```

```
154            }
155            public PointF BallPoint()
156            {
157                return new PointF(_ball.X, _ball.Y);
158            }
159
160
161        }
162    }
163
```