C:\git\ShootsAndLadders\ShootsAndLadders\Combined.cs

```
1   using System;
2   using System.Linq;
3
4   namespace ShootsAndLadders
5   {
6       class Program
7       {
8           static void Main(string[] args)
9           {
10              while (true)
11              {
12                  Console.WriteLine("Welcome to shoots and ladders! How many players?");
13                  string numberOfPlayers = Console.ReadLine();
14                  var board = new Board(int.Parse(numberOfPlayers));
15                  while (!board.Squares.Last().Players.Any())
16                  {
17                      foreach (var player in board.Players)
18                      {
19                          var currentSquare = board.Squares.Single(x => x.Players.Any(y =>
                             y.GetNumber() == player.GetNumber()));
20                          var currentSquareIndex = board.Squares.IndexOf(currentSquare);
21                          var move = player.Move();
22                          var newSquare = currentSquareIndex + move;
23                          if (newSquare >= board.Squares.Count())
24                          {
25                              newSquare = currentSquareIndex;
26                          }
27                          currentSquare.Players.Remove(player);
28                          Console.WriteLine($"Player {player.GetNumber()} moved to square
                            {newSquare}.");
29                          if (board.Squares[newSquare].LadderTo.HasValue)
30                          {
31                              newSquare = board.Squares[newSquare].LadderTo.
                                GetValueOrDefault();
32                              Console.WriteLine($"You took a ladder to {newSquare}!");
33                          }
34                          if (board.Squares[newSquare].ShootTo.HasValue)
35                          {
36                              newSquare = board.Squares[newSquare].ShootTo.
                                GetValueOrDefault();
37                              Console.WriteLine($"You took a ladder to {newSquare}!");
38                          }
39                          board.Squares[newSquare].Players.Add(player);
40                      }
41                  }
42                  var winner = board.Squares.Last().Players.First().GetNumber();

43                  Console.WriteLine($"Play {winner} wins the game!");
44                  Console.WriteLine("Would you like to play again? Y/n");
45                  var playAgain = Console.ReadLine();
46                  if (playAgain.StartsWith("N"))
47                  {
48                      return;
49                  }
```

```
        }
    }
}

using System;
using System.Collections.Generic;
using System.Text;

namespace ShootsAndLadders
{
    public class Square
    {
        public List<Player> Players { get; set; }
        public int? ShootTo { get; set; }
        public int? LadderTo { get; set; }

        public Square()
        {
            Players = new List<Player>();
        }
    }
}

using System;
using System.Collections.Generic;
using System.Text;

namespace ShootsAndLadders
{
    public class Player
    {
        private int Number;
        private Random Random;

        public int GetNumber()
        {
            return Number;
        }

        public void SetNumber(int value)
        {
            Number = value;
        }

        public int Move()
        {
            if (Random == null) {
                Random = new Random(Number);
            }
            var spaces = Random.Next(0, 6);
            Console.WriteLine($"Player {GetNumber()} spun a {spaces}.");
            return spaces;
        }
    }
```

```
106
107 using System;
108 using System.Collections.Generic;
109 using System.Text;
110
111 namespace ShootsAndLadders
112 {
113     public class Board
114     {
115         public List<Square> Squares { get; set; }
116         public List<Player> Players { get; set; }
117
118         public Board(int numberOfPlayers) {
119             Players = new List<Player>();
120             Squares = new List<Square>();
121             //FIXED: Start at 1, Starting at Player 0 was bad.
122             for (int i = 1; i < 3; i++)
123             {
124                 var nextPlayer = new Player();
125                 nextPlayer.SetNumber(i);
126                 Players.Add(nextPlayer);
127             }
128
129             for (var j = 0; j <= 100; j++)
130             {
131                 var newSquare = new Square();
132                 Squares.Add(newSquare);
133                 if (j == 10)
134                 {
135                     newSquare.LadderTo = 18;
136                 }
137                 else if (j == 20)
138                 {
139                     newSquare.ShootTo = 14;
140                 }
141                 else if (j == 24)
142                 {
143                     newSquare.LadderTo = 35;
144                 }
145                 else if (j == 30)
146                 {
147                     newSquare.LadderTo = 40;
148                 }
149                 else if (j == 32)
150                 {
151                     newSquare.ShootTo = 15;
152                 }
153                 else if (j == 41)
154                 {
155                     newSquare.LadderTo = 57;
156                 }
157                 else if (j == 45)
158                 {
159                     newSquare.LadderTo = 55;
```

```
161                 else if (j == 48)
162                 {
163                     newSquare.LadderTo = 60;
164                 }
165                 else if (j == 50)
166                 {
167                     newSquare.ShootTo = 25;
168                 }
169                 else if (j == 51)
170                 {
171                     newSquare.ShootTo = 64;
172                 }
173                 else if (j == 61)
174                 {
175                     newSquare.ShootTo = 43;
176                 }
177                 else if (j == 63)
178                 {
179                     newSquare.LadderTo = 70;
180                 }
181                 else if (j == 78)
182                 {
183                     newSquare.ShootTo = 65;
184                 }
185                 else if (j == 80)
186                 {
187                     newSquare.LadderTo = 100;
188                 }
189                 else if (j == 48)
190                 {
191                     newSquare.LadderTo = 53;
192                 }
193 
194             }
195 
196             Squares[0].Players.AddRange(Players);
197         }
198     }
199 }
```