```
1  using System.Collections.Generic;
2  using UnityEngine;
3
4  /// <summary>
5  /// Logical representation of an NAND (NOT AND) gate.<br/><br/>
6  /// The NAND gate is also a universal gate.
7  /// </summary>
8  public class NAndGate : Circuit
9  {
10     public NAndGate() : this(Vector2.zero) { }
11
12     public NAndGate(Vector2 startingPos) : base("NAND", 2, 1, startingPos)
         { }
13
14     /// <summary>
15     /// Returns an output to update if the output has changed due to
         alterations in input power statuses.
16     /// </summary>
17     /// <returns>The list of outputs that should have their connections
         called.</returns>
18     protected override List<Output> UpdateOutputs()
19     {
20         bool outputStatus = Outputs[0].Powered;
21         List<Output> outputs = new List<Output>();
22
23         // NAND gate representation
24         Outputs[0].Powered = !(Inputs[0].Powered && Inputs[1].Powered);
25
26         if (outputStatus != Outputs[0].Powered || MaterialNotMatching())
             outputs.Add(Outputs[0]);
27
28         return outputs;
29     }
30
31     /// <summary>
32     /// Checks all outputs to determine if the output node material is not
         matching its power status.<br/><br/>
33     /// This is utilized within custom circuits to force update calls that
         would normally not occur due to the nature of UpdateOutputs().
34     /// </summary>
35     /// <returns>Whether any output material does not match its power
         status.</returns>
36     private bool MaterialNotMatching()
37     {
38         if (Outputs[0].StatusRenderer == null) return false;
39
40         return (Outputs[0].Powered && Outputs
             [0].StatusRenderer.sharedMaterial !=
             CircuitVisualizer.Instance.PowerOnMaterial) ||
```

```
41                  (!Outputs[0].Powered && Outputs
                      [0].StatusRenderer.sharedMaterial !=
                      CircuitVisualizer.Instance.PowerOffMaterial);
42      }
43  }
```