



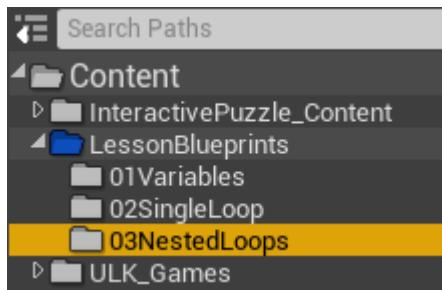
Unreal Engine

Interactive Puzzles: 03 Nested Loops

Introduction

In each of the puzzles that follow, watch the video that shows the desired result.

In the LessonBlueprints folder, find the “03NestedLoops” folder. In that folder, duplicate the starter blueprint that matches the name of the problem below.



The blueprint will be named using the following convention: **BP_NL_01_Start**
BP_ (Blueprint)
NL_ (Nested Loop)
01_ (Problem number)

Start (Starter code)

Instructions

- When you copy the blueprint, change the name to your first name. Example: Suzy Smith would change the blueprint to be named **BP_NL_01_Suzy**
- Place an instance of the new Blueprint in the level.
- Watch the video demonstration.
- Edit the new Blueprint.
- Go to the **PuzzleSolution** event and connect the nodes provided to achieve the output that matches the video.

If you need to restart, copy the nodes from the starter blueprint's **PuzzleSolution** nodes into your blueprint.

Problem - BP_NL_01

Blueprint Nested Loops Problem 01

- Duplicate the **BP_NL_01_Start** starter blueprint and place an instance of it in the world.
- Watch the video demonstration at: <https://youtu.be/MYtbh85LYt4>
- Modify the **PuzzleSolution** Custom Event in the Blueprint to replicate the output in the video.

Here are some screenshots of the desired outcome (not a substitute for the video!):

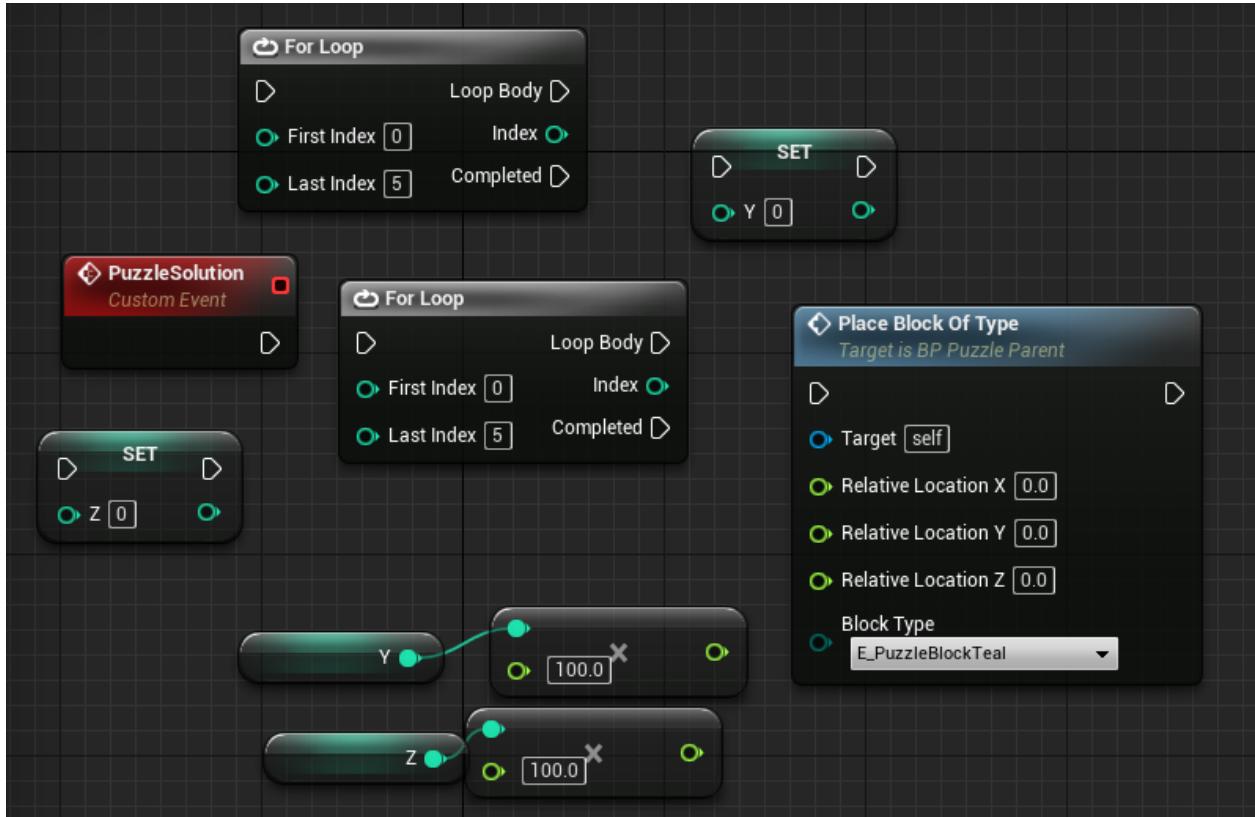


Problem - BP_NL_01 continued



Problem - BP_NL_01 continued

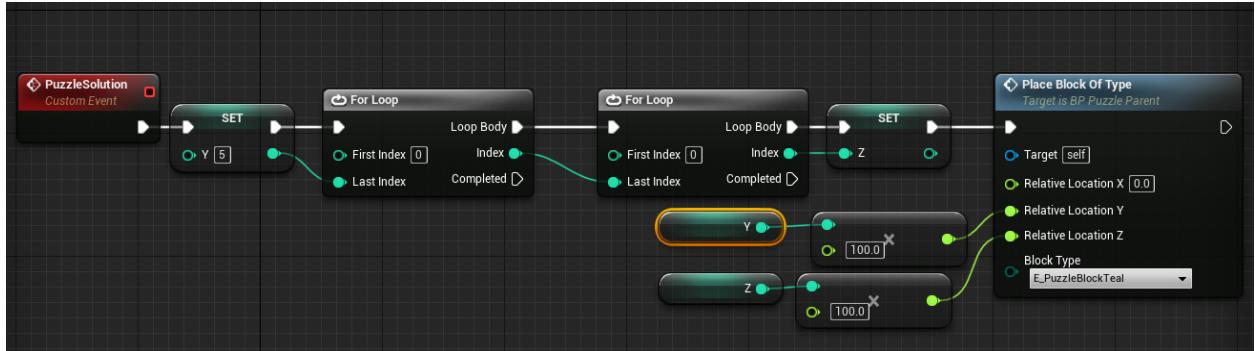
Here is the starter code:



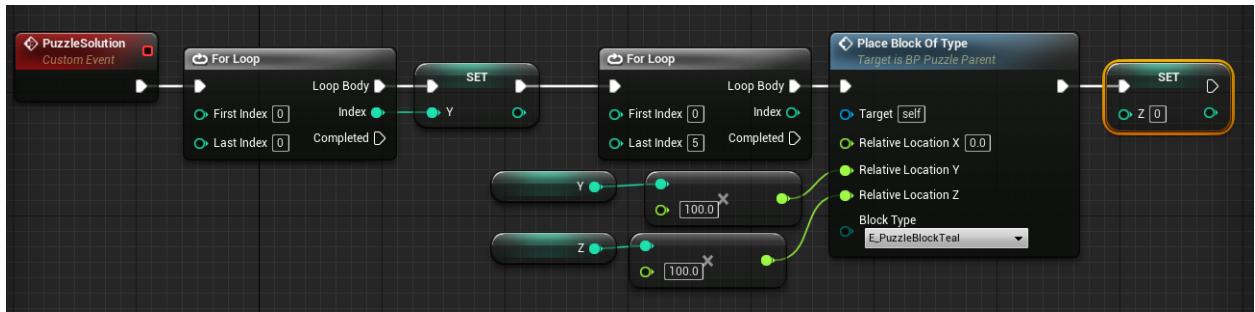
Problem - BP_NL_01 continued

Which solution below matches the final code you created?

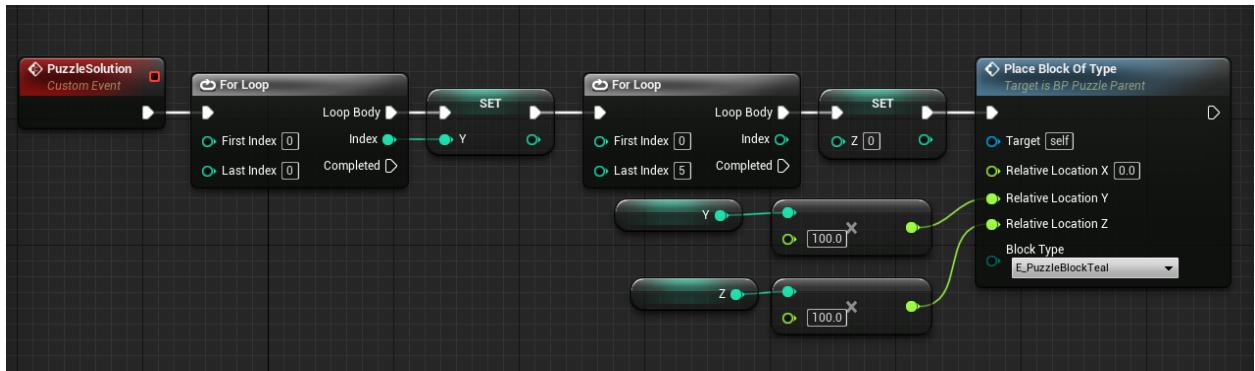
A)



B)



C)



D)

The correct solution isn't shown.

Problem - BP_NL_02

Blueprint Nested Loops Problem 02

- Duplicate the **BP_NL_02_Start** starter blueprint.
- Watch the video demonstration at: <https://youtu.be/9XT64Vulzm8>
- Modify the **PuzzleSolution** Custom Event to replicate the output in the video.

Here are some screenshots of the desired outcome (not a substitute for the video!):

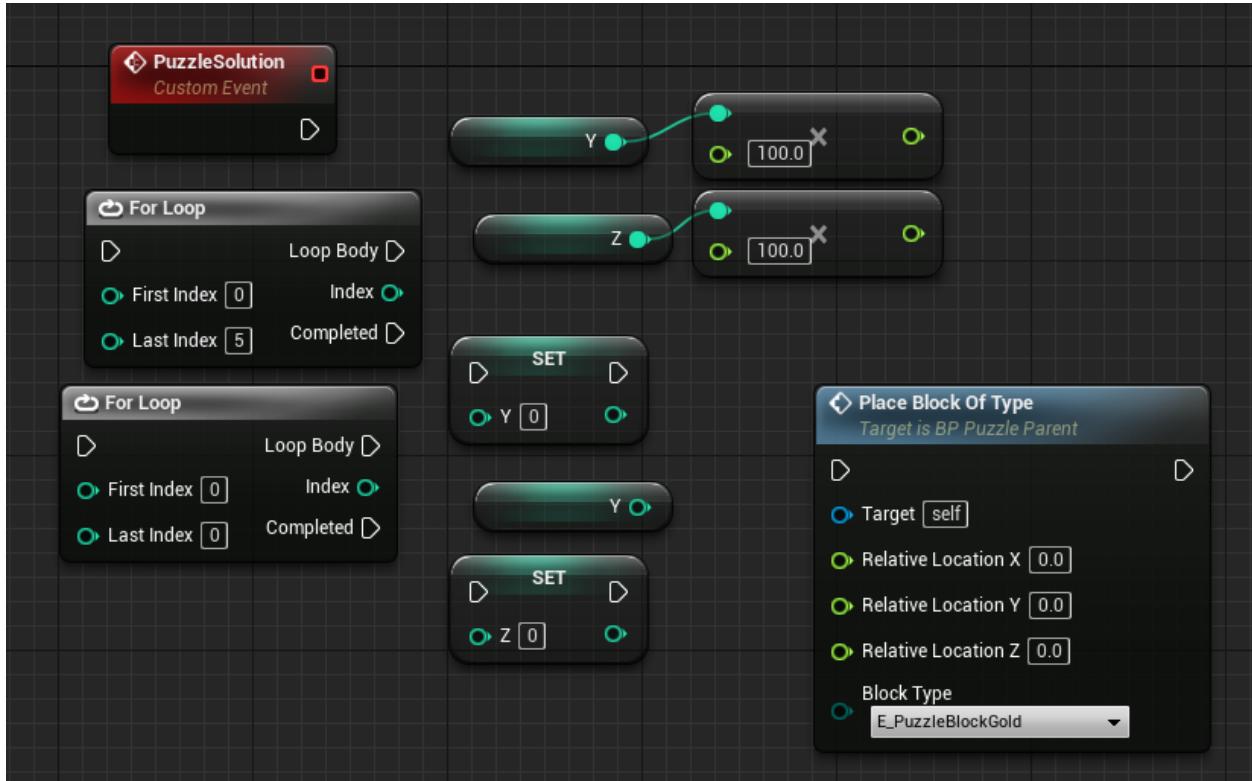


Problem - BP_NL_02 continued...



Problem - BP_NL_02 continued...

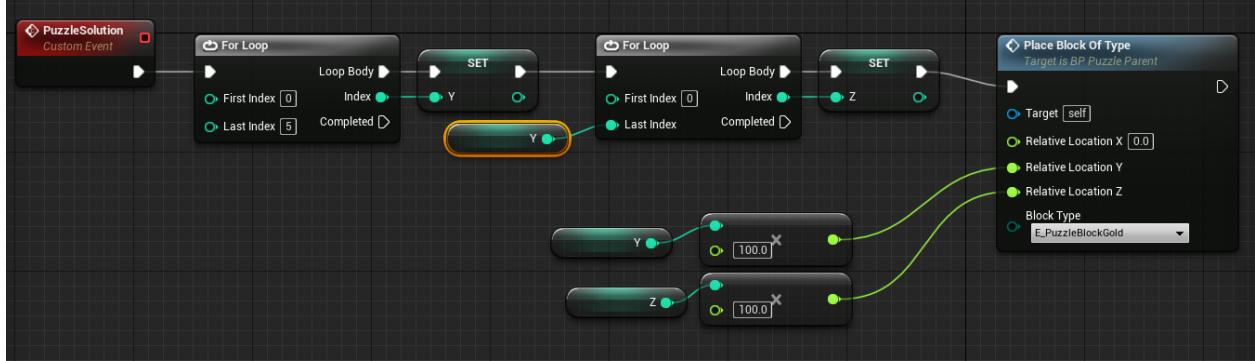
Here is the starter code:



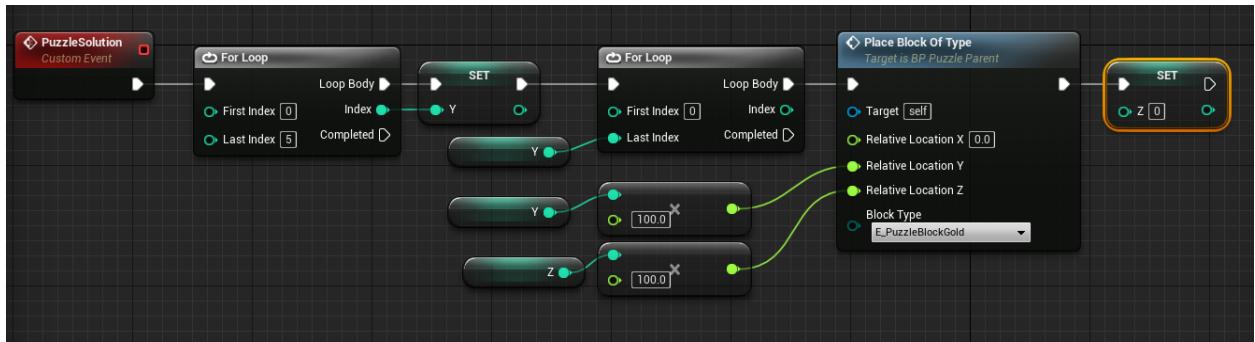
Problem - BP_NL_02 continued...

Which solution below matches the final code you created?

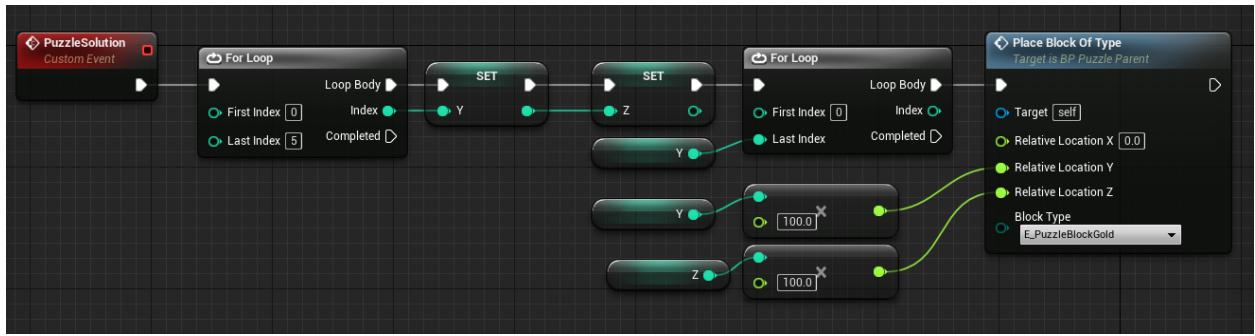
A)



B)



C)



D)

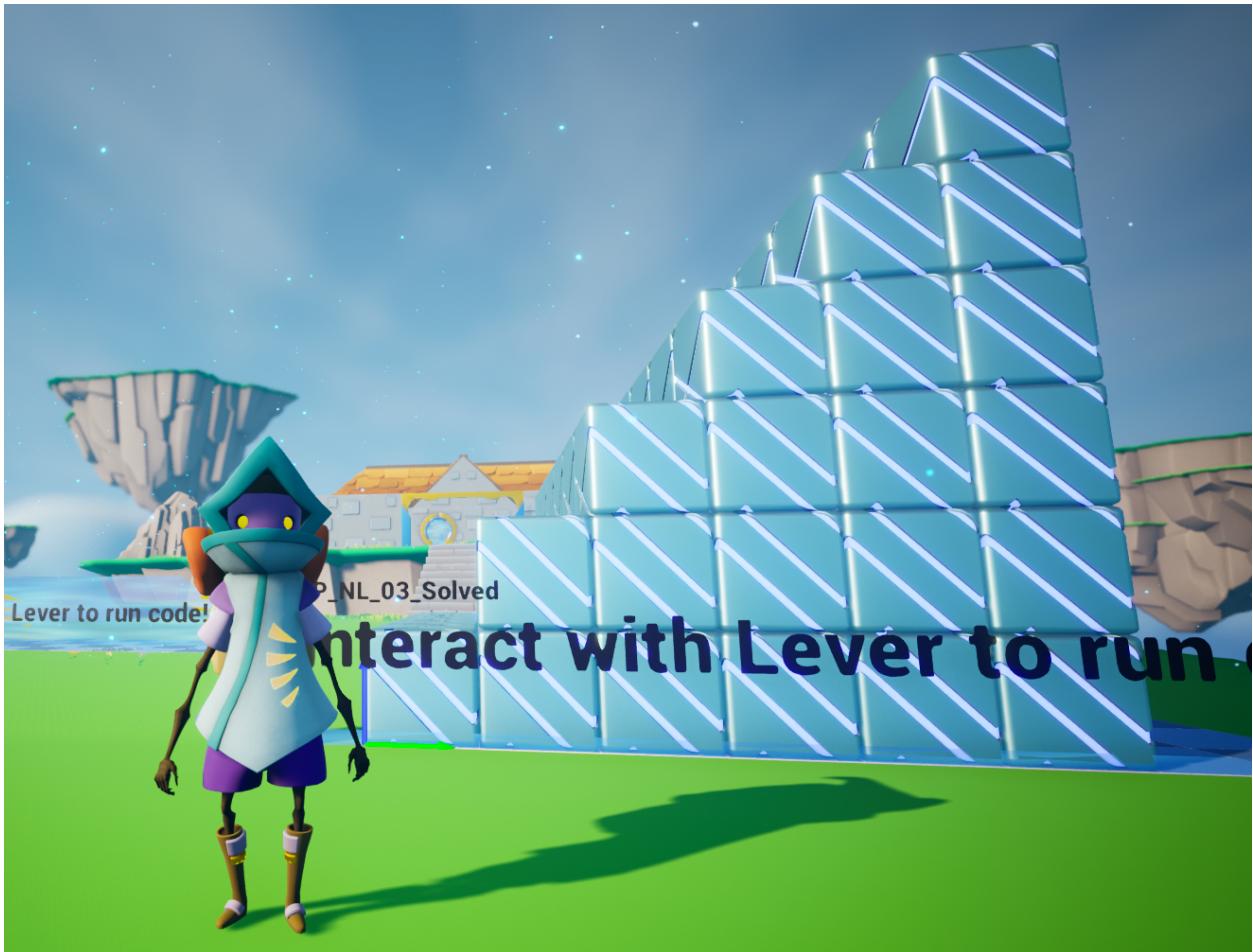
The correct solution isn't shown.

Problem - BP_NL_03

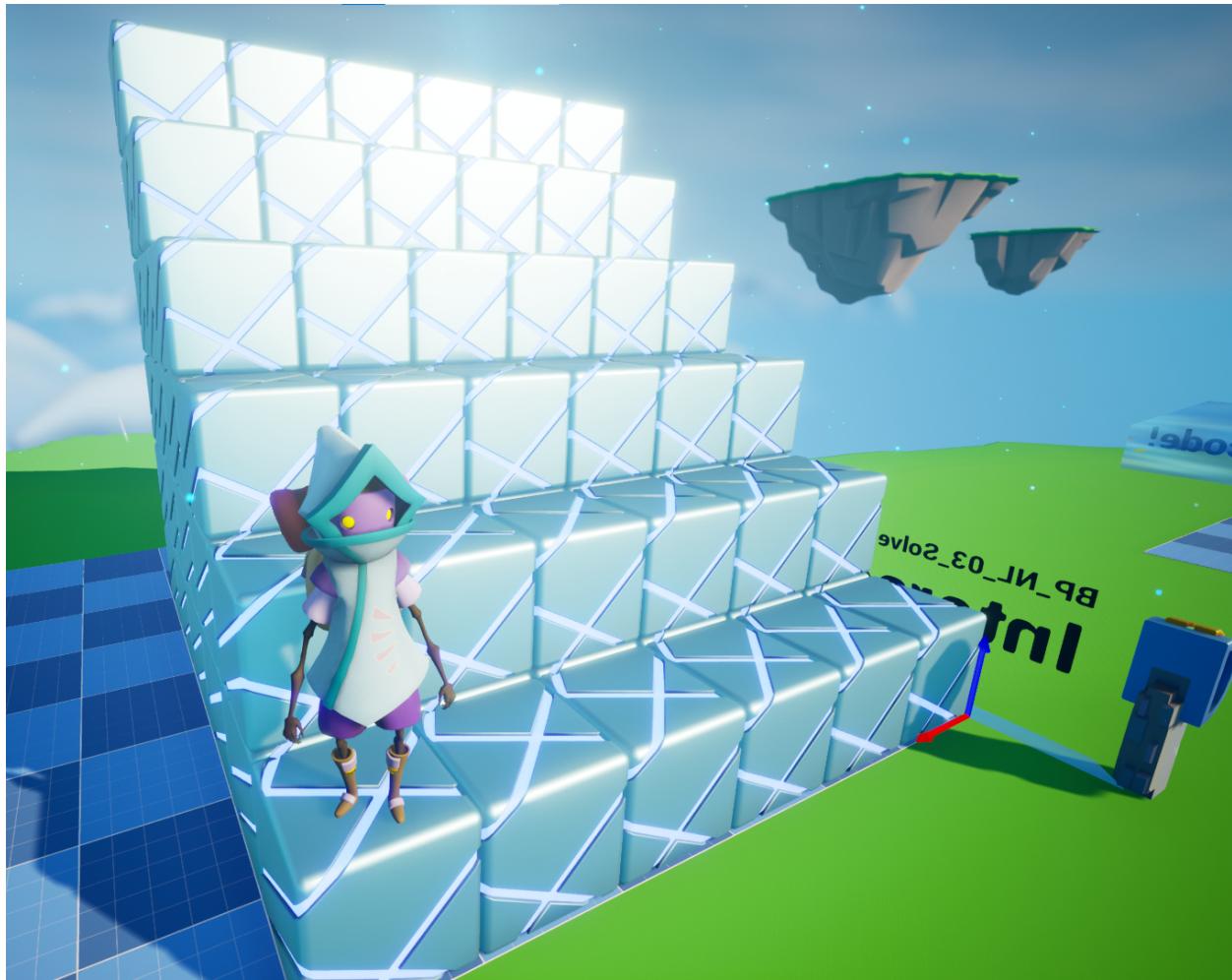
Blueprint Nested Loops Problem 03

- Duplicate the **BP_NL_03_Start** starter blueprint.
- Watch the video demonstration at: https://youtu.be/_Q-39RO_WjU
- Modify the **PuzzleSolution** Custom Event to replicate the output in the video.

Here are some screenshots of the desired outcome (not a substitute for the video!):

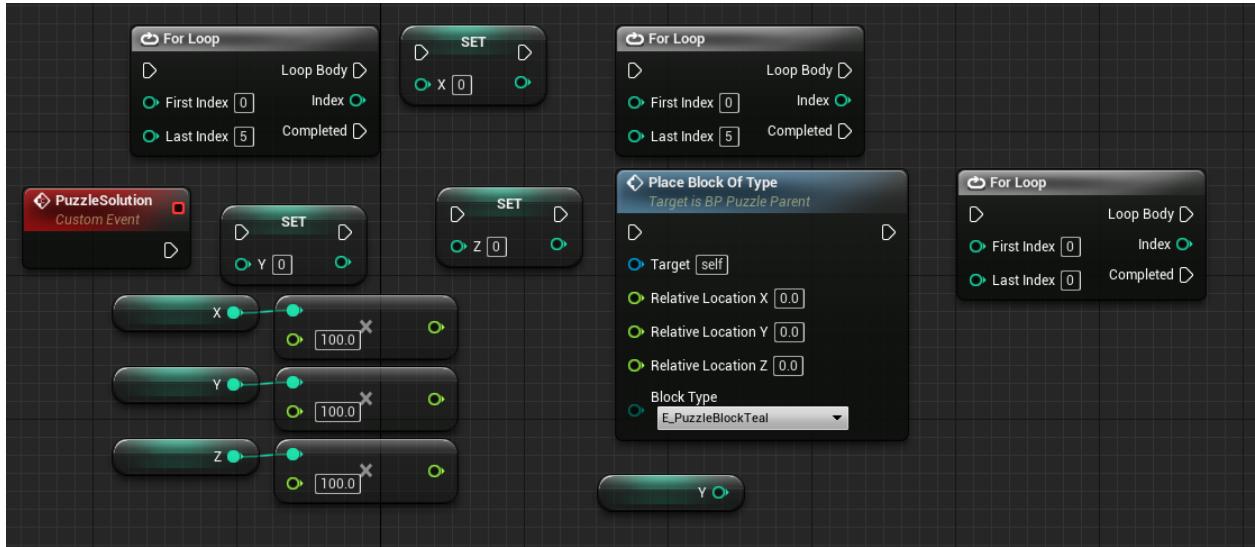


Problem - BP_NR_03 continued...



Problem - BP_NR_03 continued...

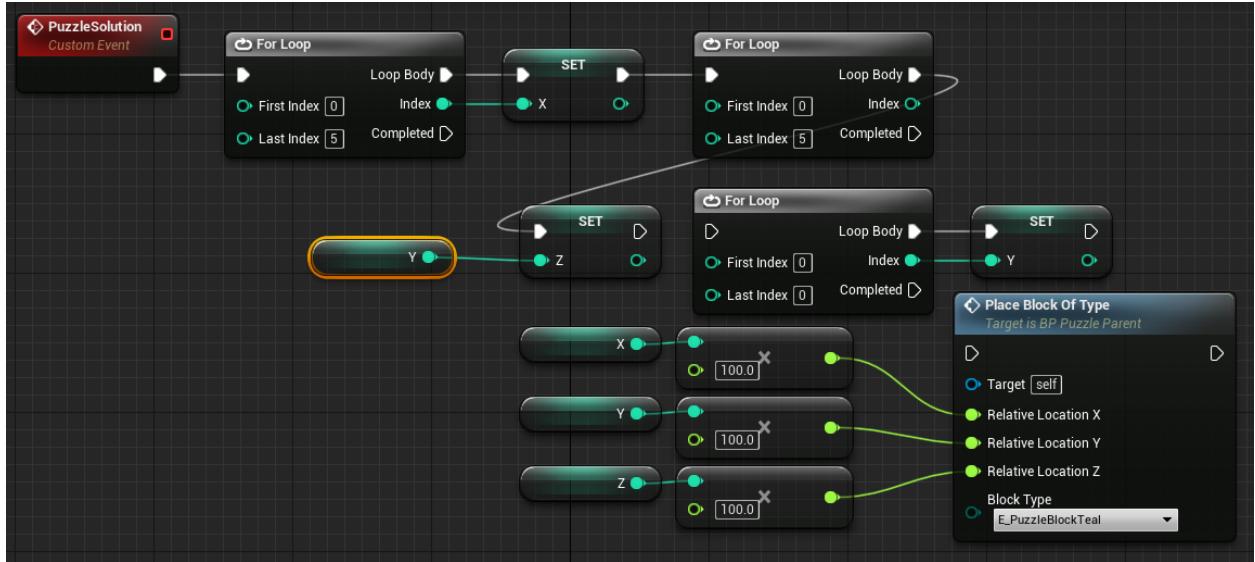
Here is the starter code:



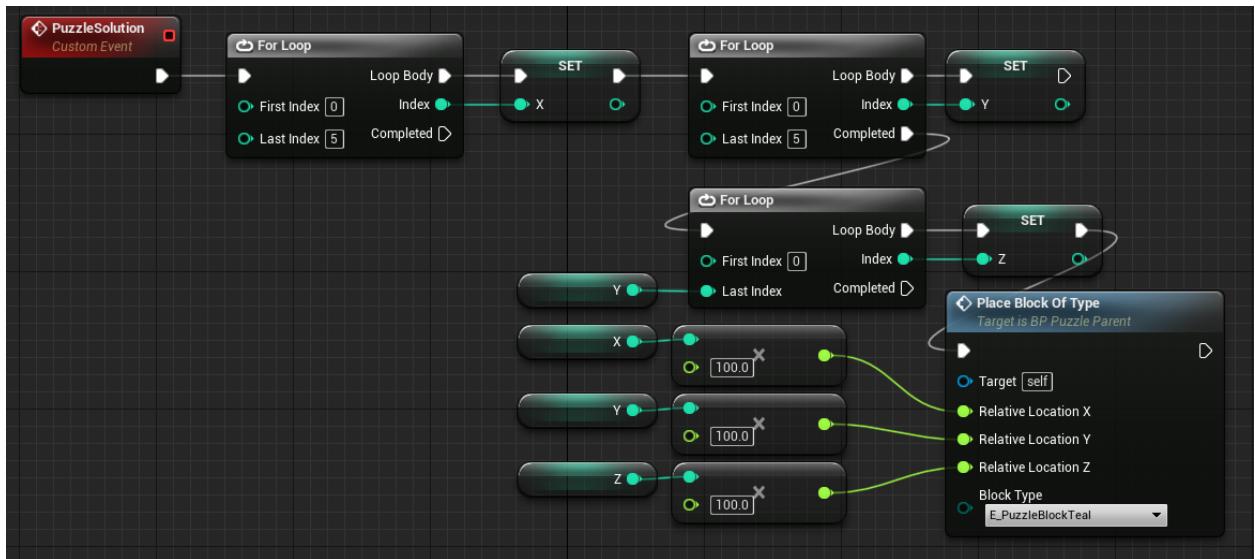
Problem - BP_NR_03 continued...

Which solution below matches the final code you created?

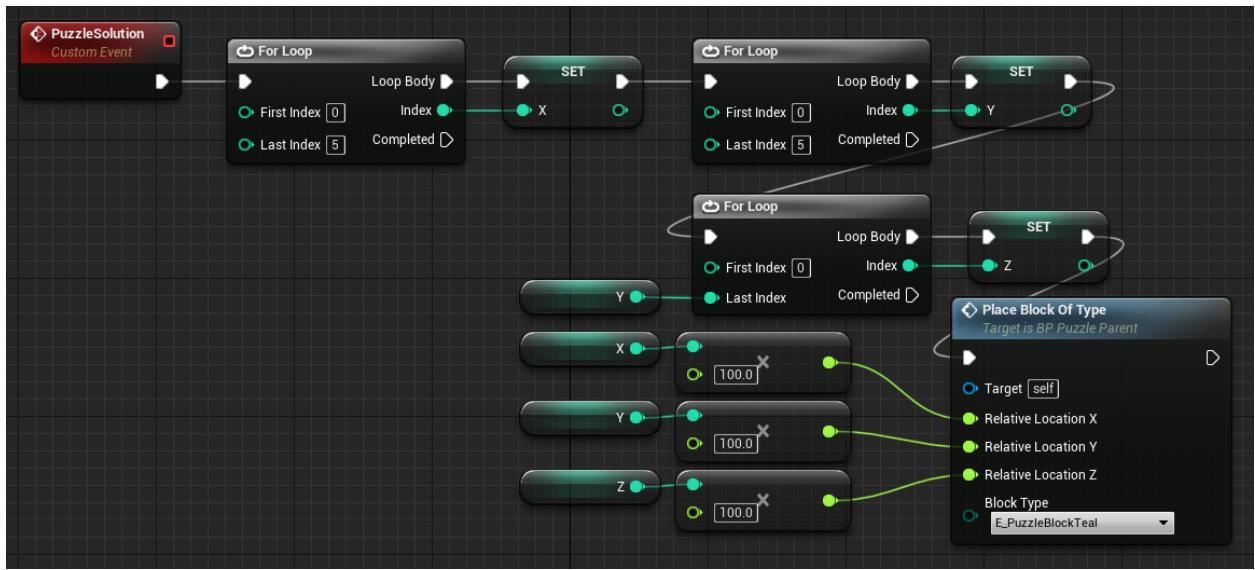
A)



B)



C)



D)

The correct solution isn't shown.

Problem - BP_NL_04

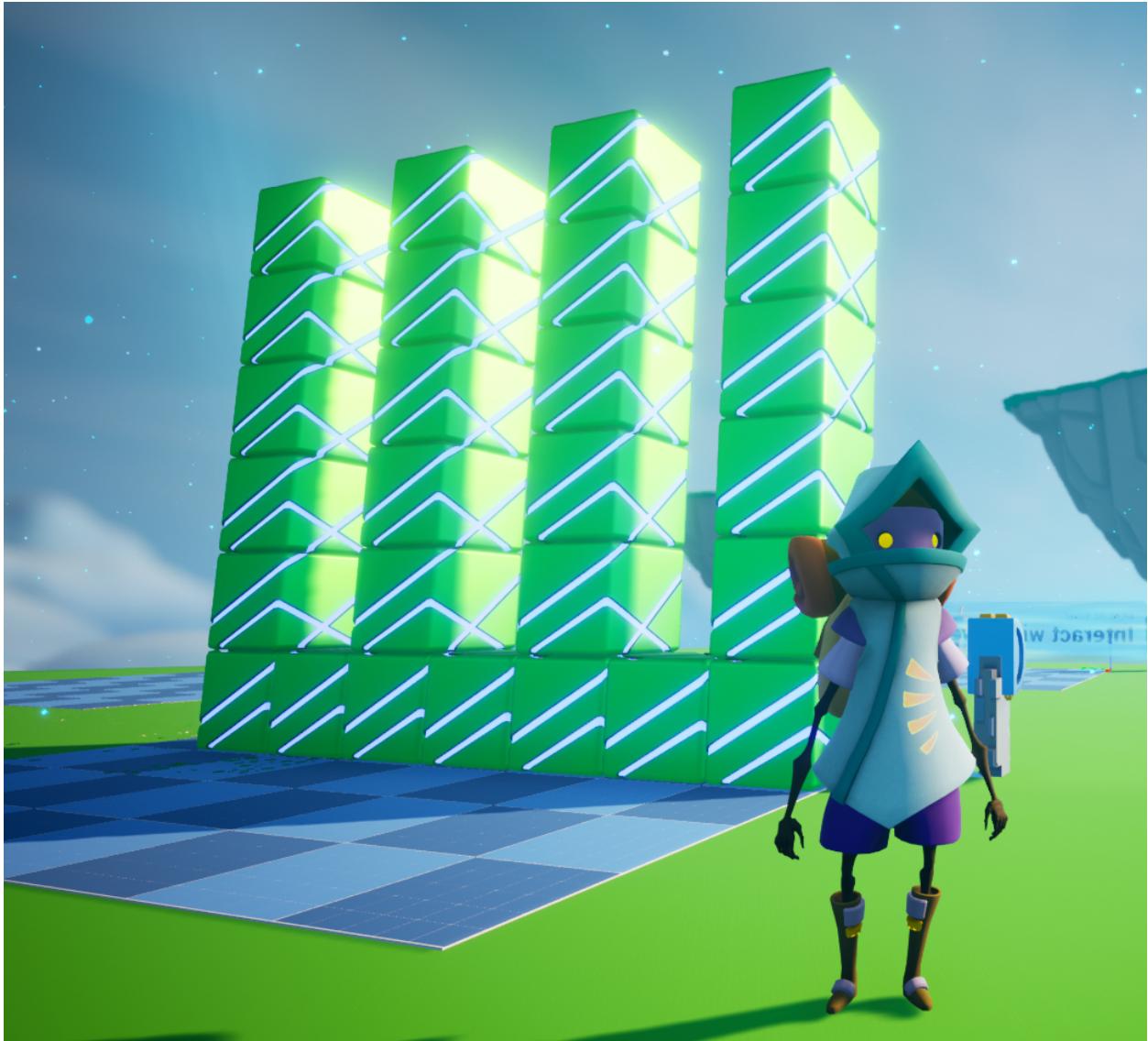
Blueprint Nested Repeats Problem 04

- Duplicate the **BP_NL_04_Start** starter blueprint.
- Watch the video demonstration at: <https://youtu.be/dUUHgUiHYLc>
- Modify the **RunCode** function to replicate the output in the video.

Here are some screenshots of the desired outcome (not a substitute for the video!):

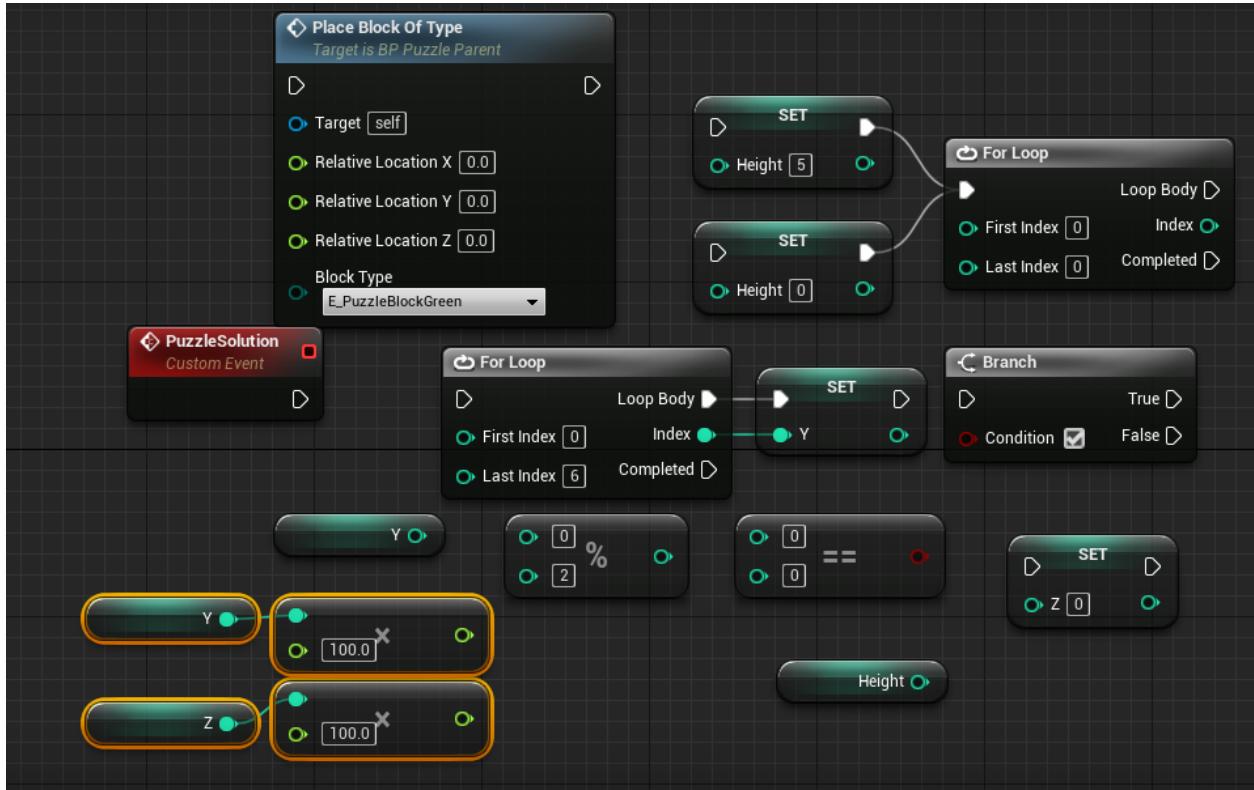


Problem - BP_NL_04 continued...



Problem - BP_NL_04 continued...

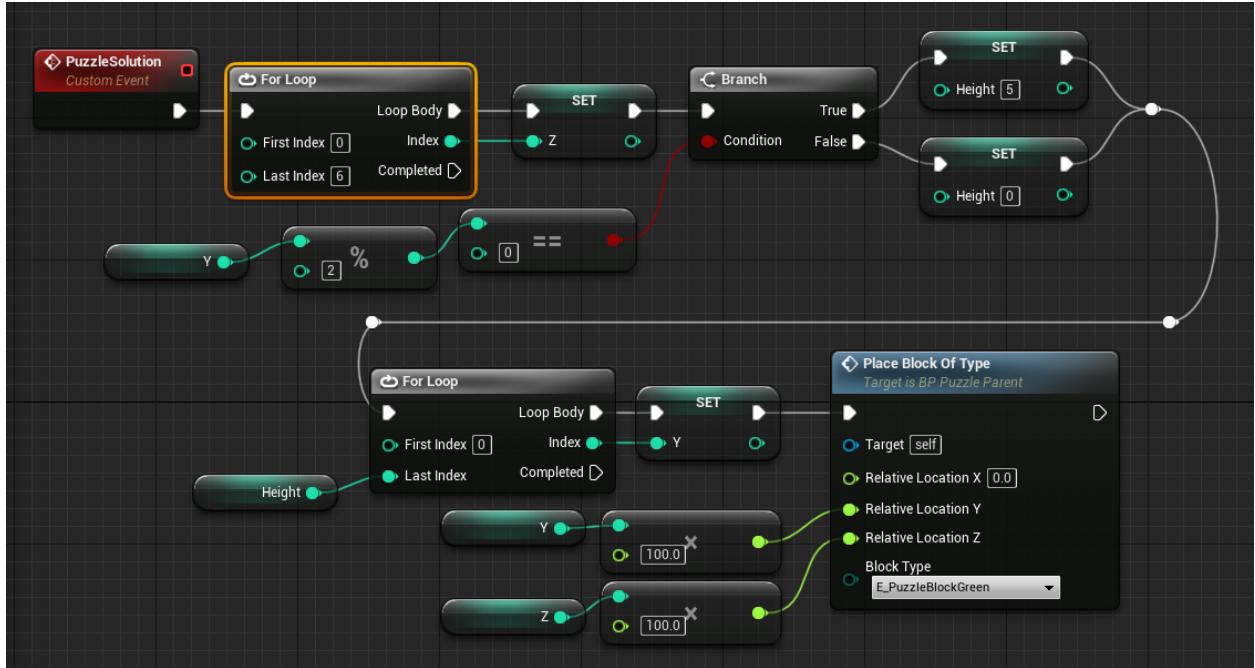
Here is the starter code:



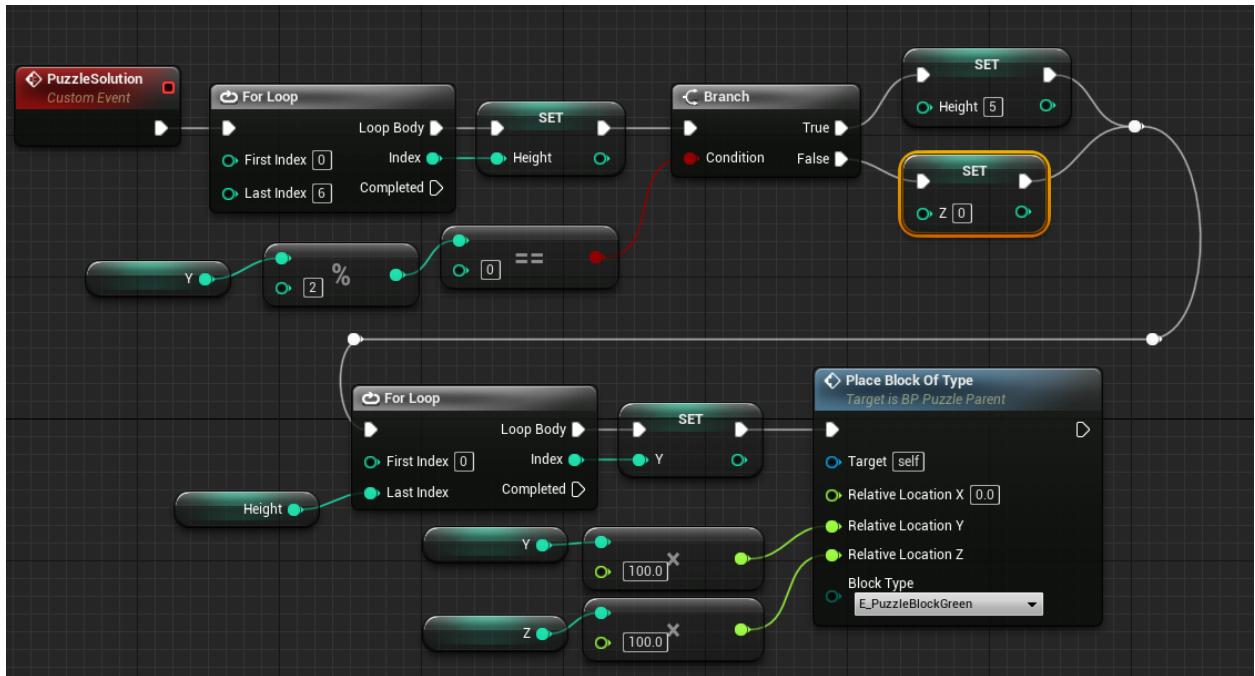
Problem - BP_NL_04 continued...

Which solution below matches the final code you created?

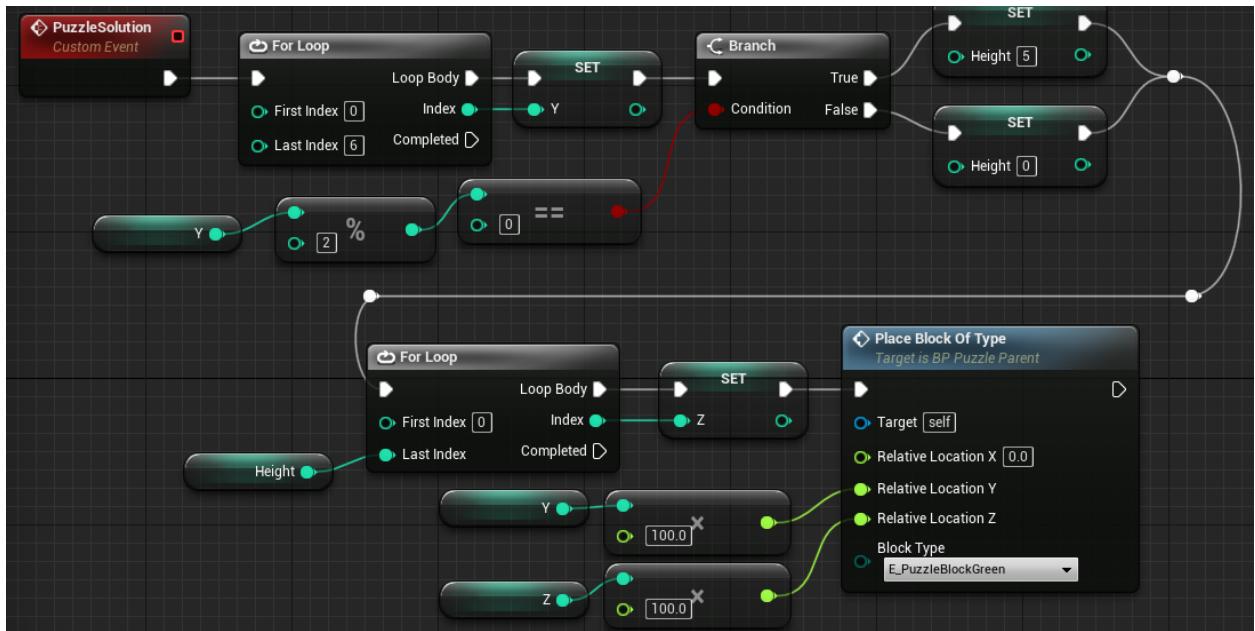
A)



B)



C)



D)

The correct solution isn't shown.

Problem - BP_NL_05 - Challenges

The starter Blueprint for Nested Loop problem 5 creates a 3x3x3 block.

Can you modify the code (or change the editable variables) to create a square building with walls, a door and a roof?

You should feel free to right-click and add any other nodes or code you need to complete your design. Before you get started, complete the Think (planning) section below.

Think (plan)

Think about and write down what you are going to create? Don't worry if don't have all the details yet, but do try to be as specific as possible.

Make

Code your design. Iterate several times and test as you go.

Improve

Show your design to another student before showing your teacher. Get feedback on the design and code and implement any suggestions if you received any.

Problem - BP_NL_06 - Create something!

The starter Blueprint for Nested Loop problem 6 creates a pyramid. Modify the nodes to create an interesting design of your own choosing. You should feel free to right-click and add any other nodes or code you need to complete your design. Before you get started, complete the Think (planning) section below.

Think (plan)

Think about and write down what you are going to create? Don't worry if don't have all the details yet, but do try to be as specific as possible.

Make

Code your design. Iterate several times and test as you go.

Improve

Show your design to another student before showing your teacher. Get feedback on the design and code and implement any suggestions if you received any.

Editing history

V0.01 2021--6-28 - Initial Release