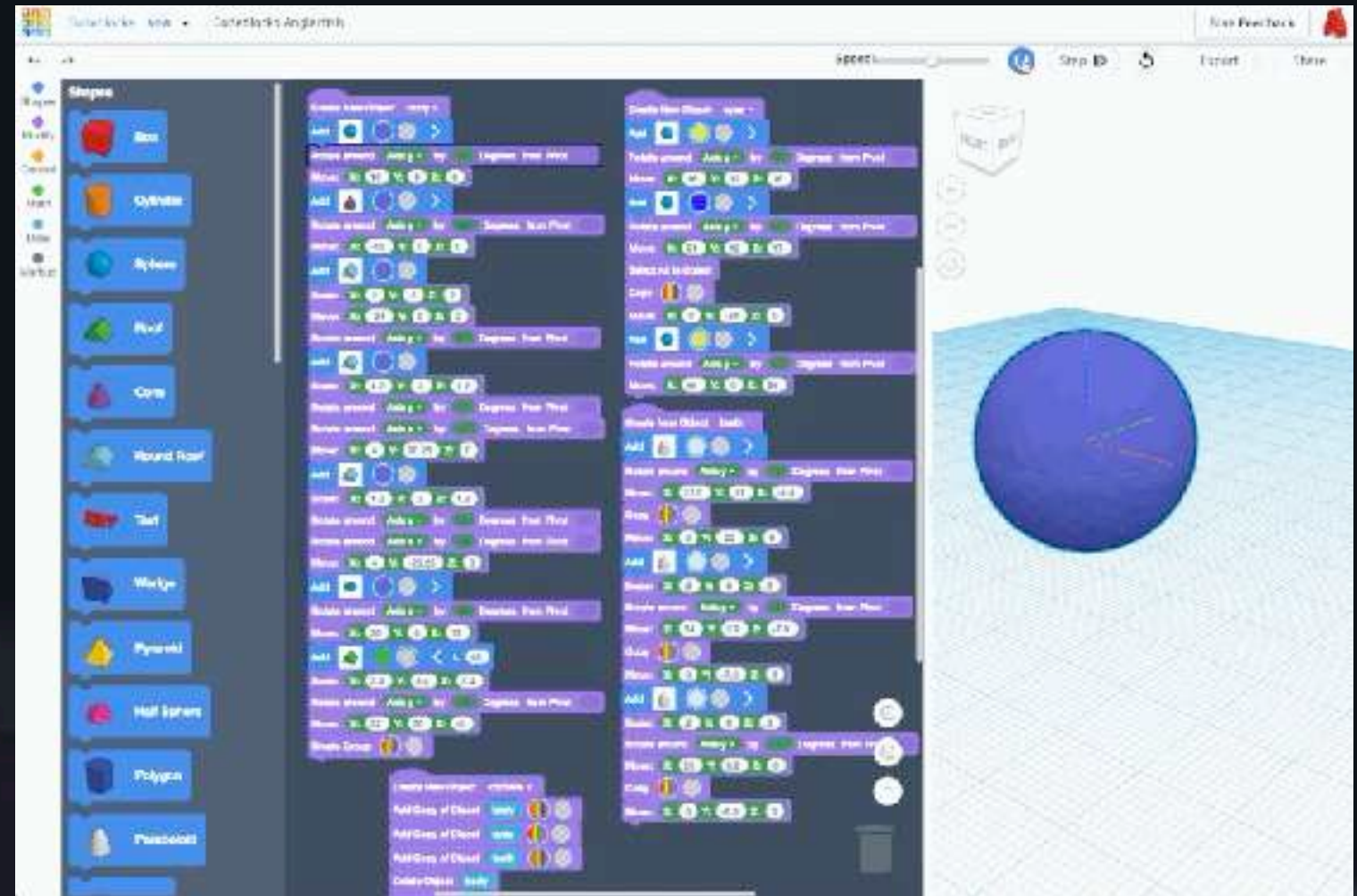
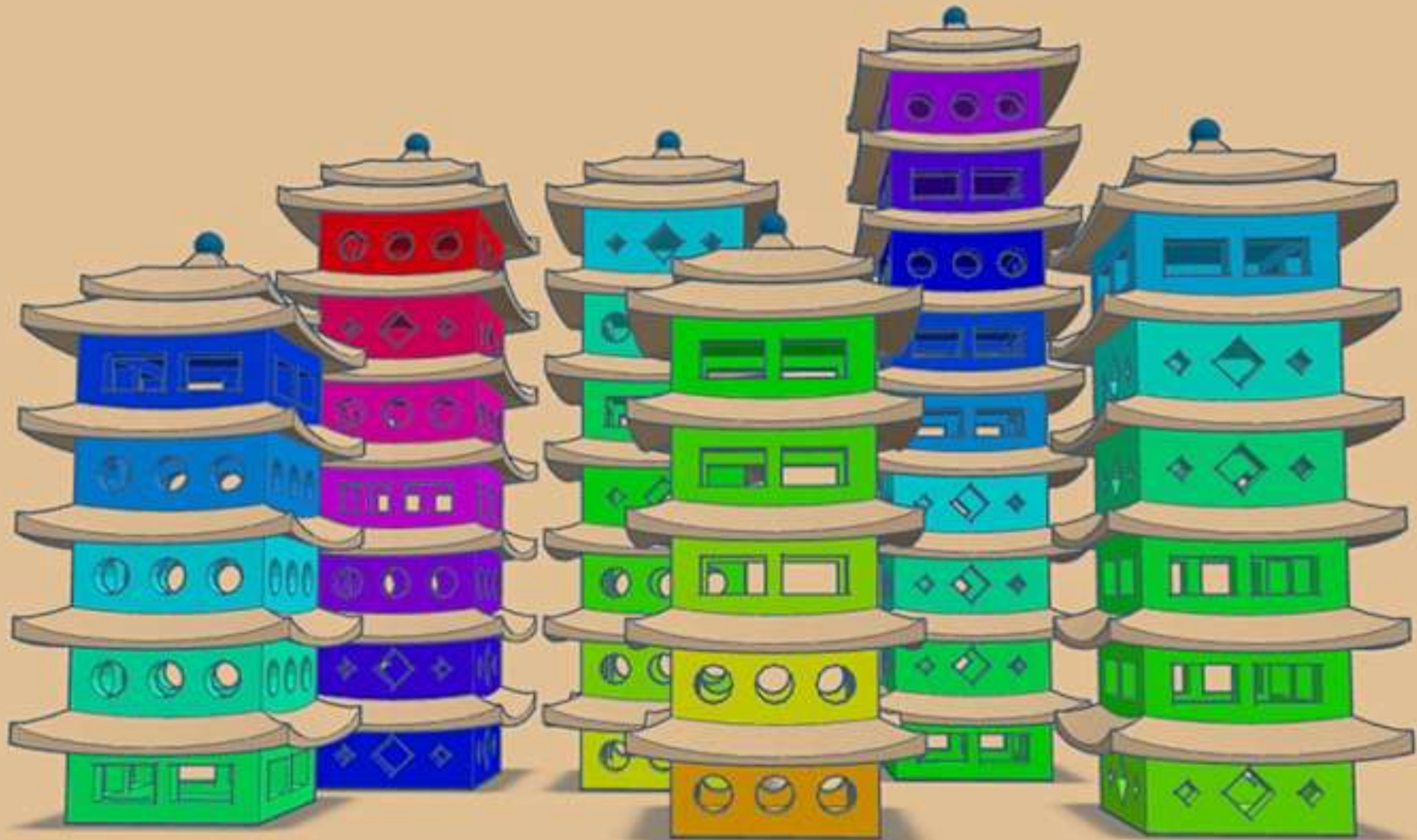


# Tinkercad Code blocks



<https://www.instructables.com/Learn-to-Design-With-Code-Using-Tinkercad-Codebloc/>

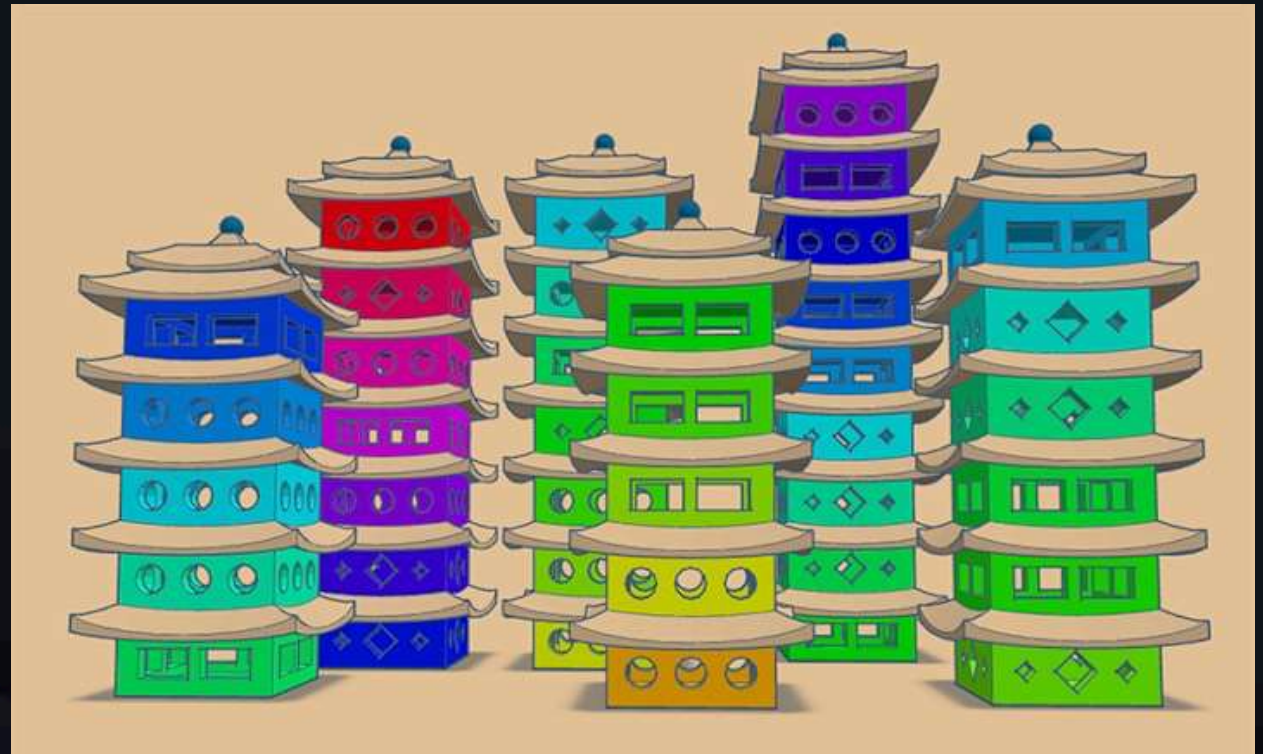
# Why code blocks??





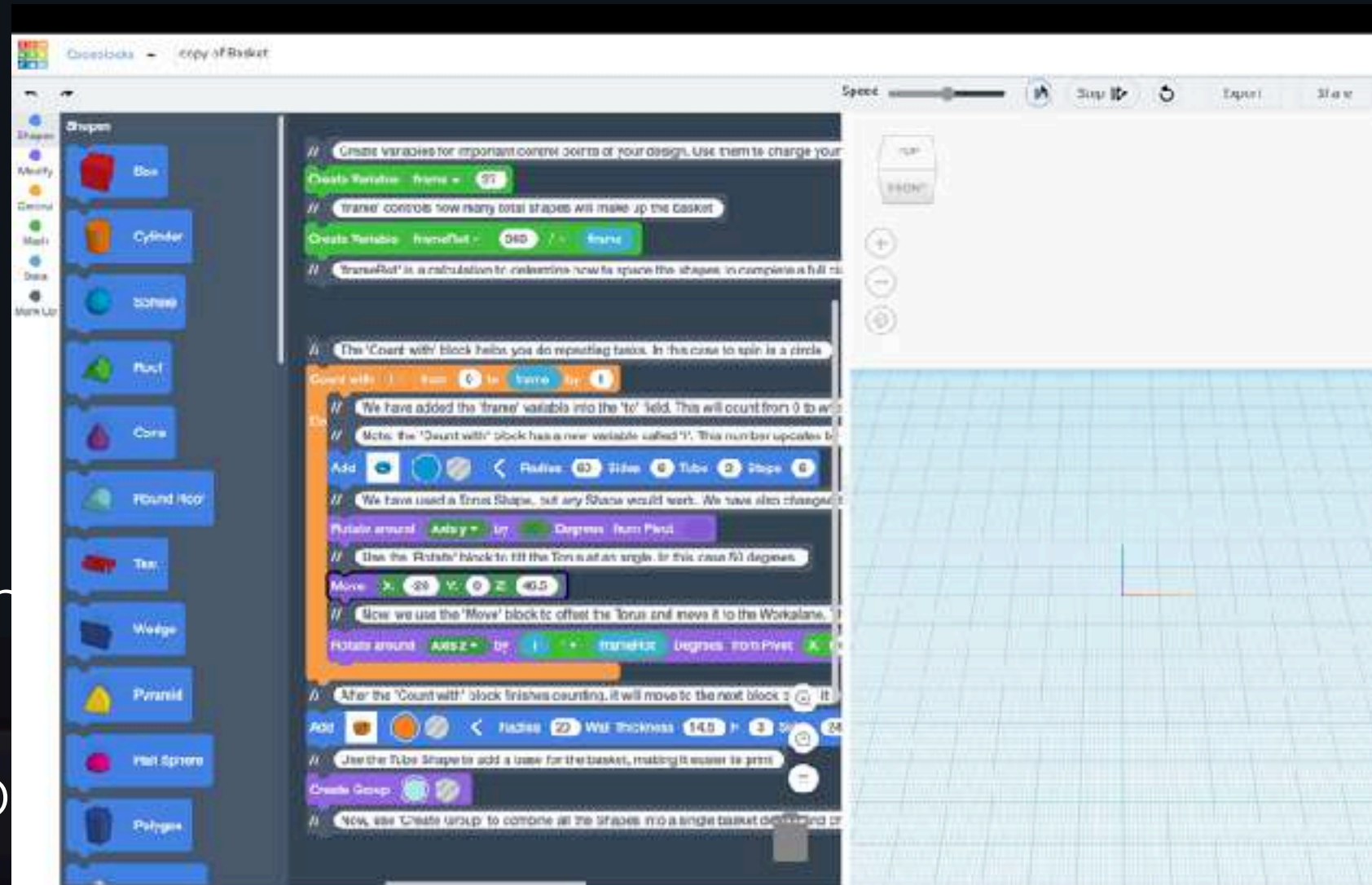
# Why code blocks??

- Precision
- Automate repetitive tasks
- Time saving
- Create Complex models

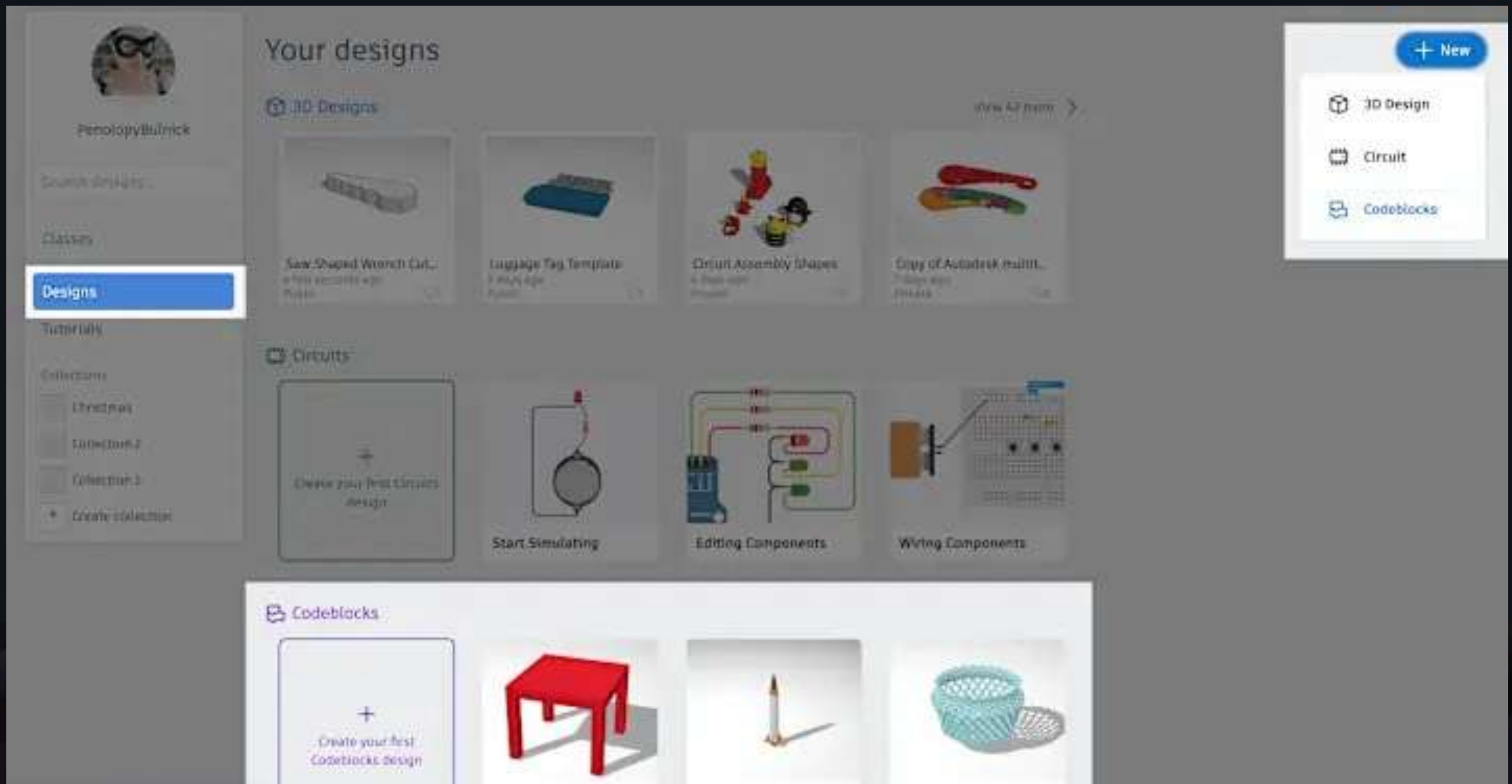


# Why code blocks??

- Precision
- Automate tasks
- Time saving
- Create Complex models



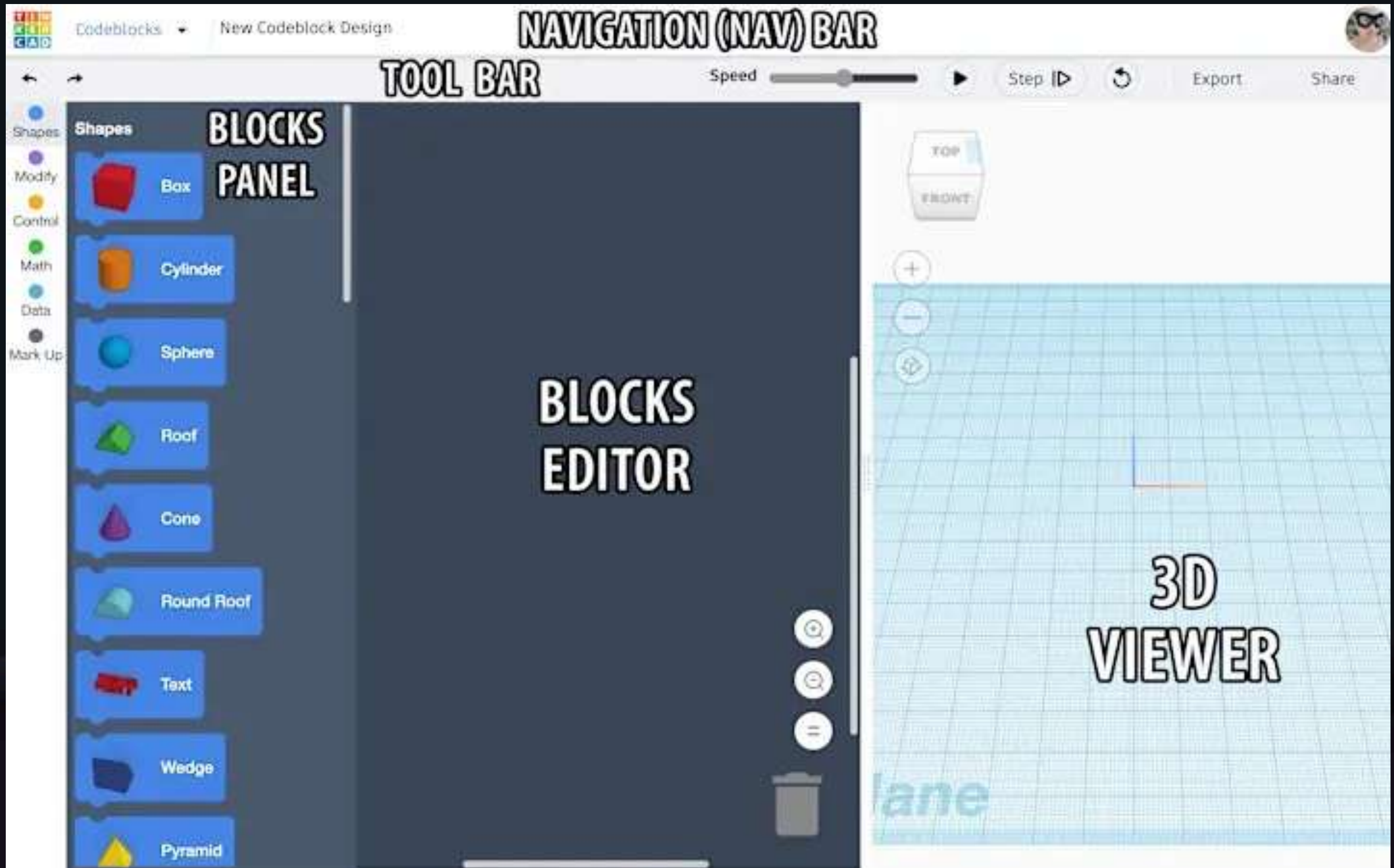
# How code blocks



<https://www.tinkercad.com/blog/official-guide-to-tinkercad-codeblocks>



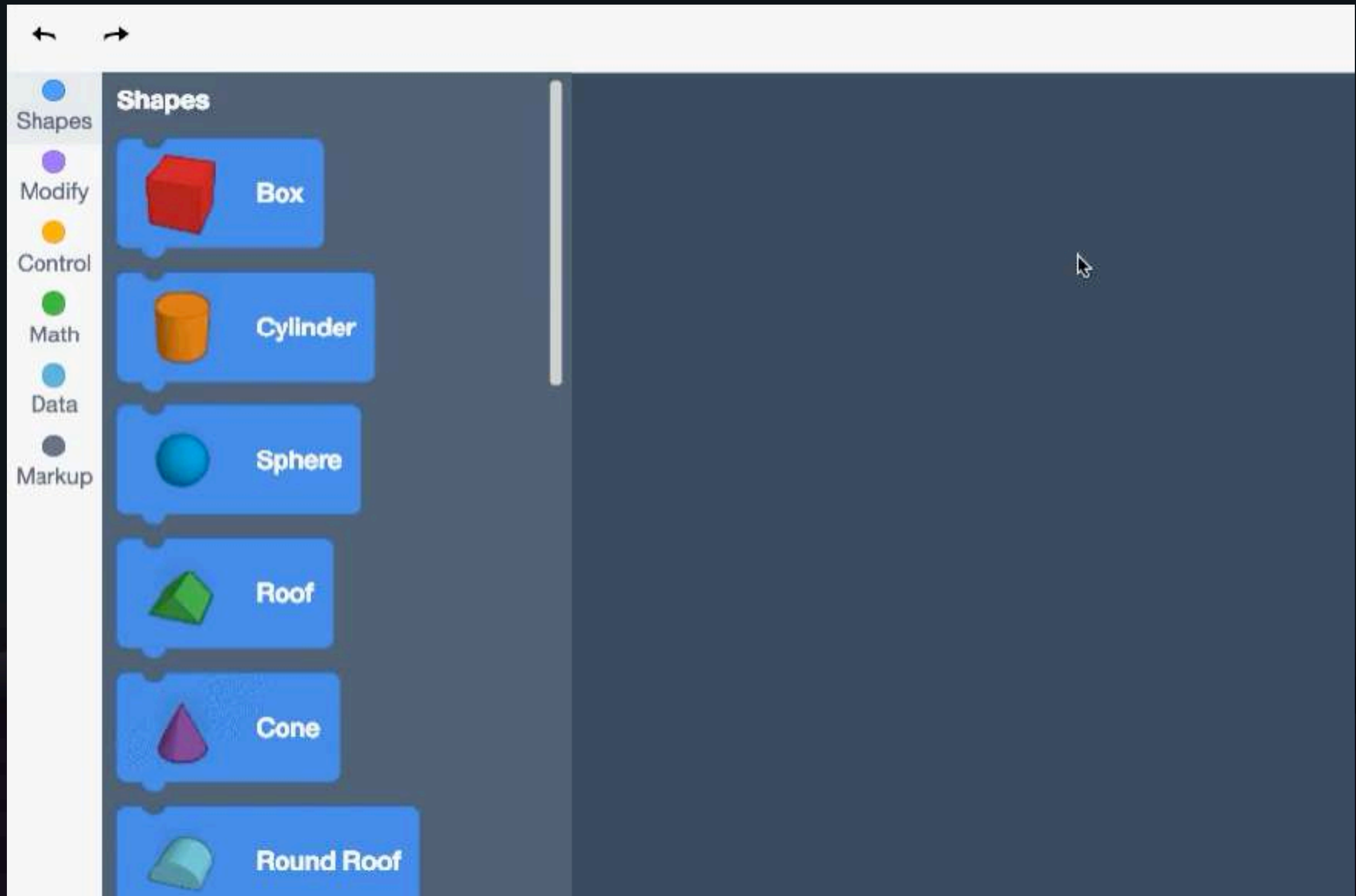
# How code blocks



# Basic operations

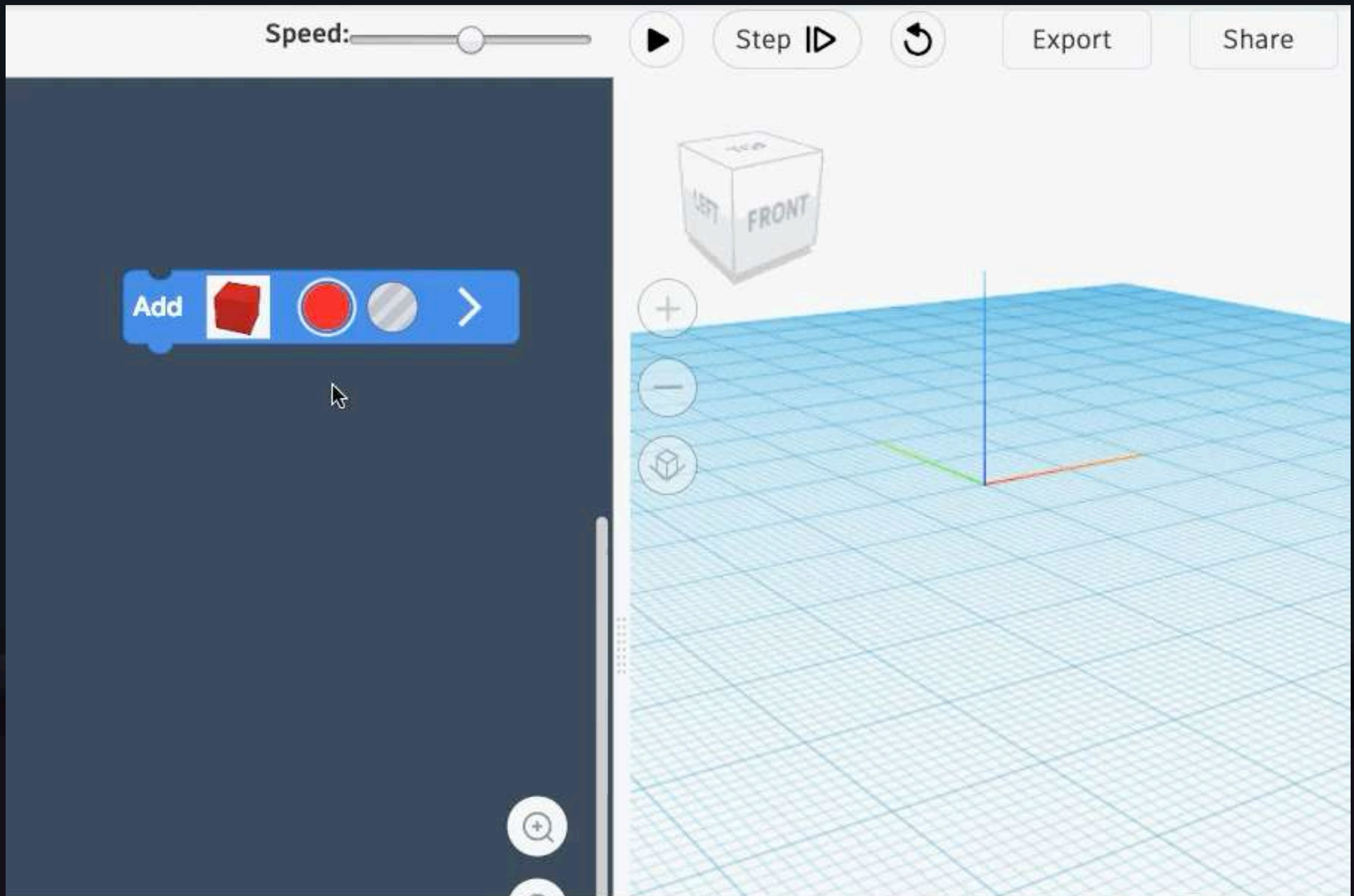
The background of the slide is a dark, pixelated landscape. It features rolling hills in shades of dark blue and purple. The sky is a deep navy blue, filled with numerous small, white, pixelated stars of varying sizes, creating a starry night effect. The overall aesthetic is reminiscent of early computer graphics or a low-resolution digital painting.

# Add Shapes

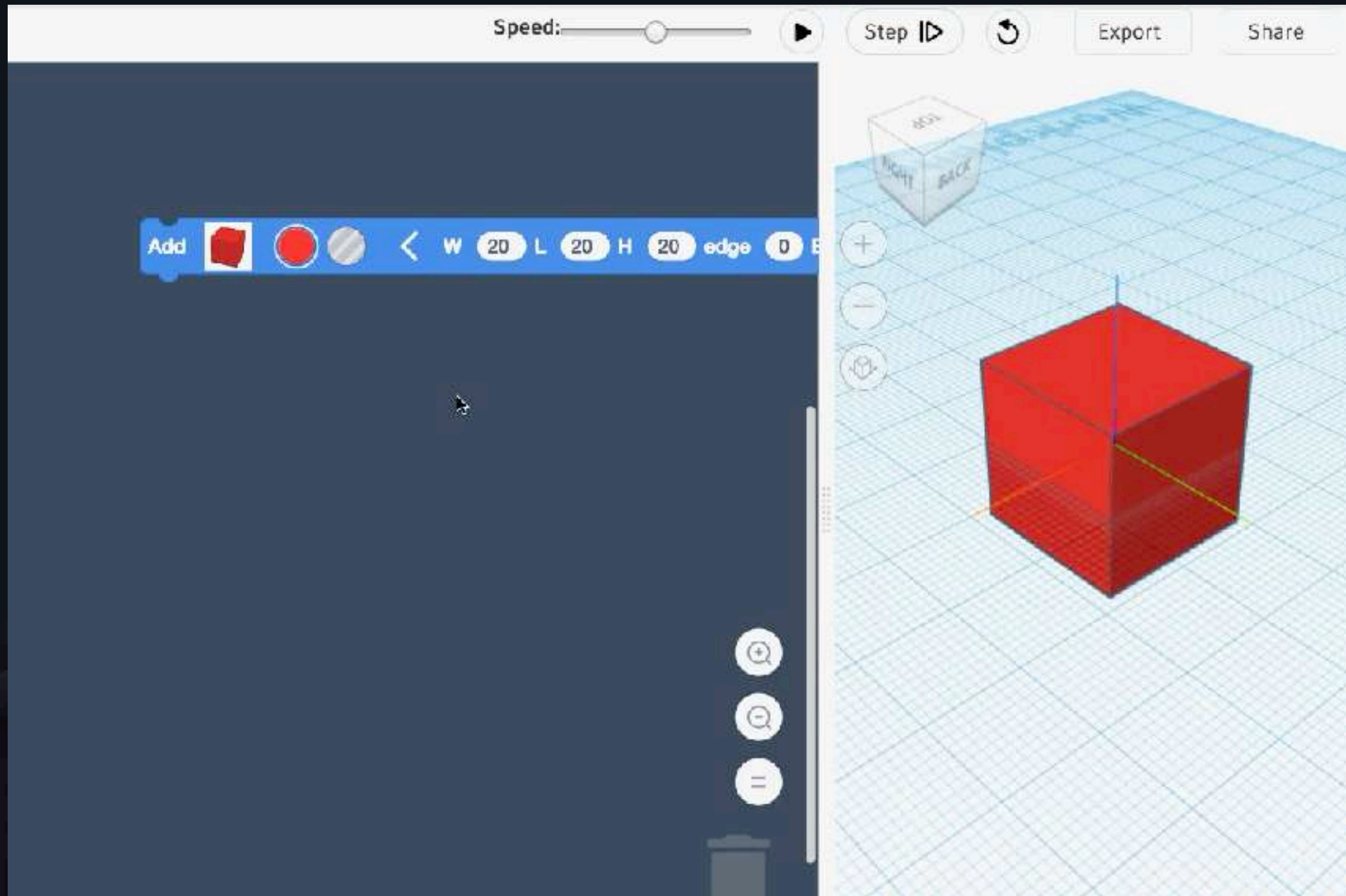




# Add Shapes

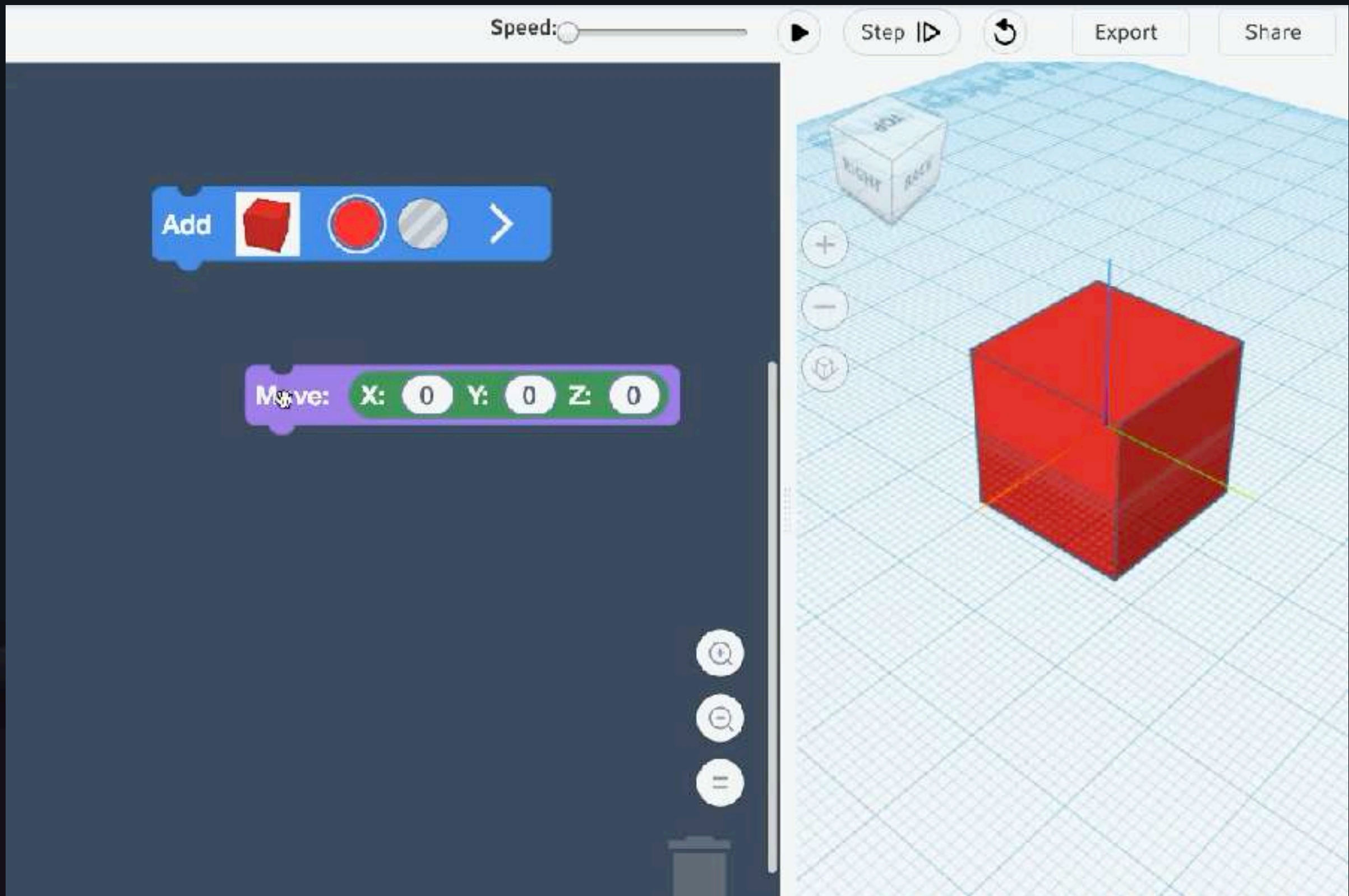


# Resize shapes



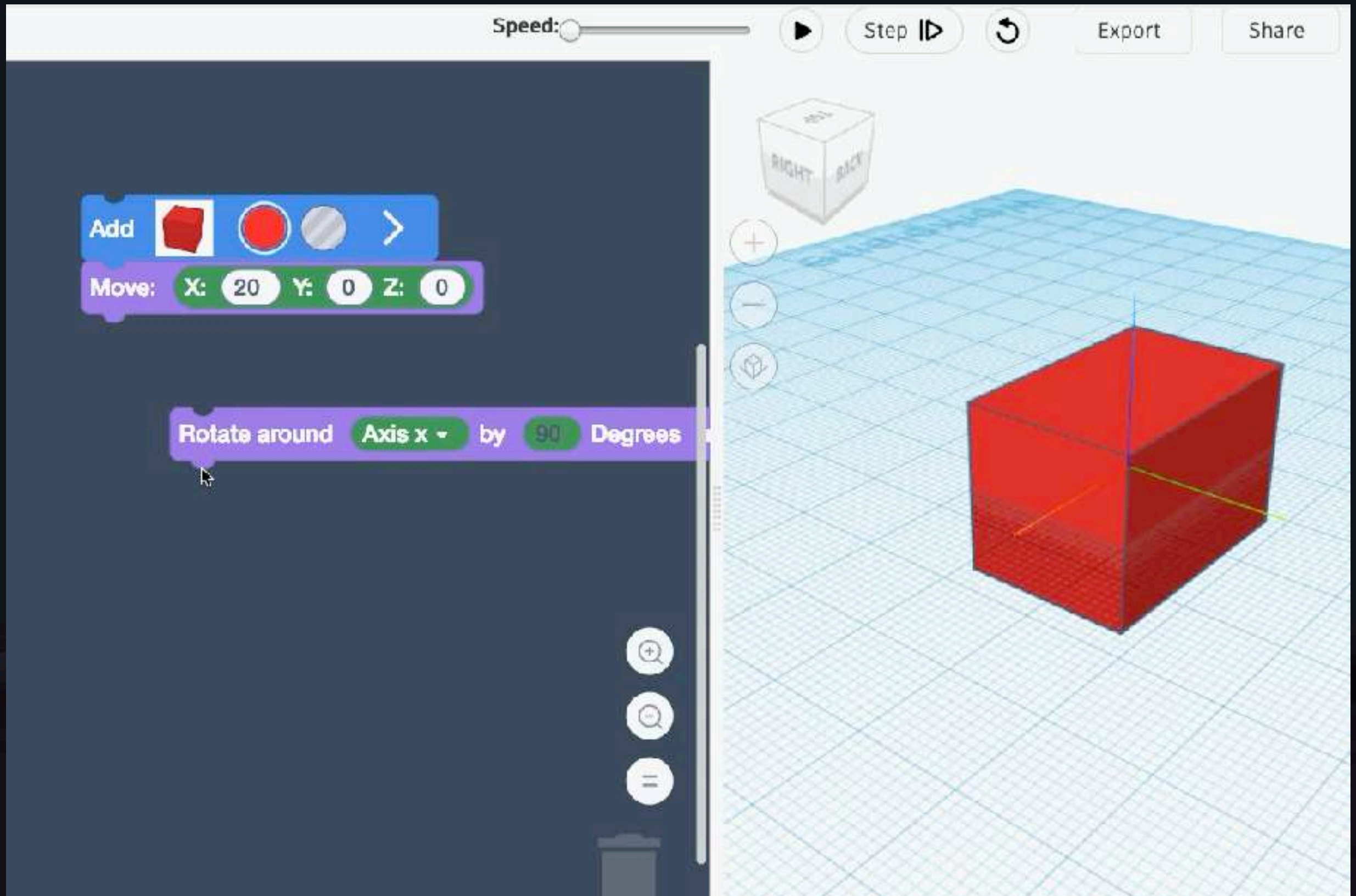


# Move shapes

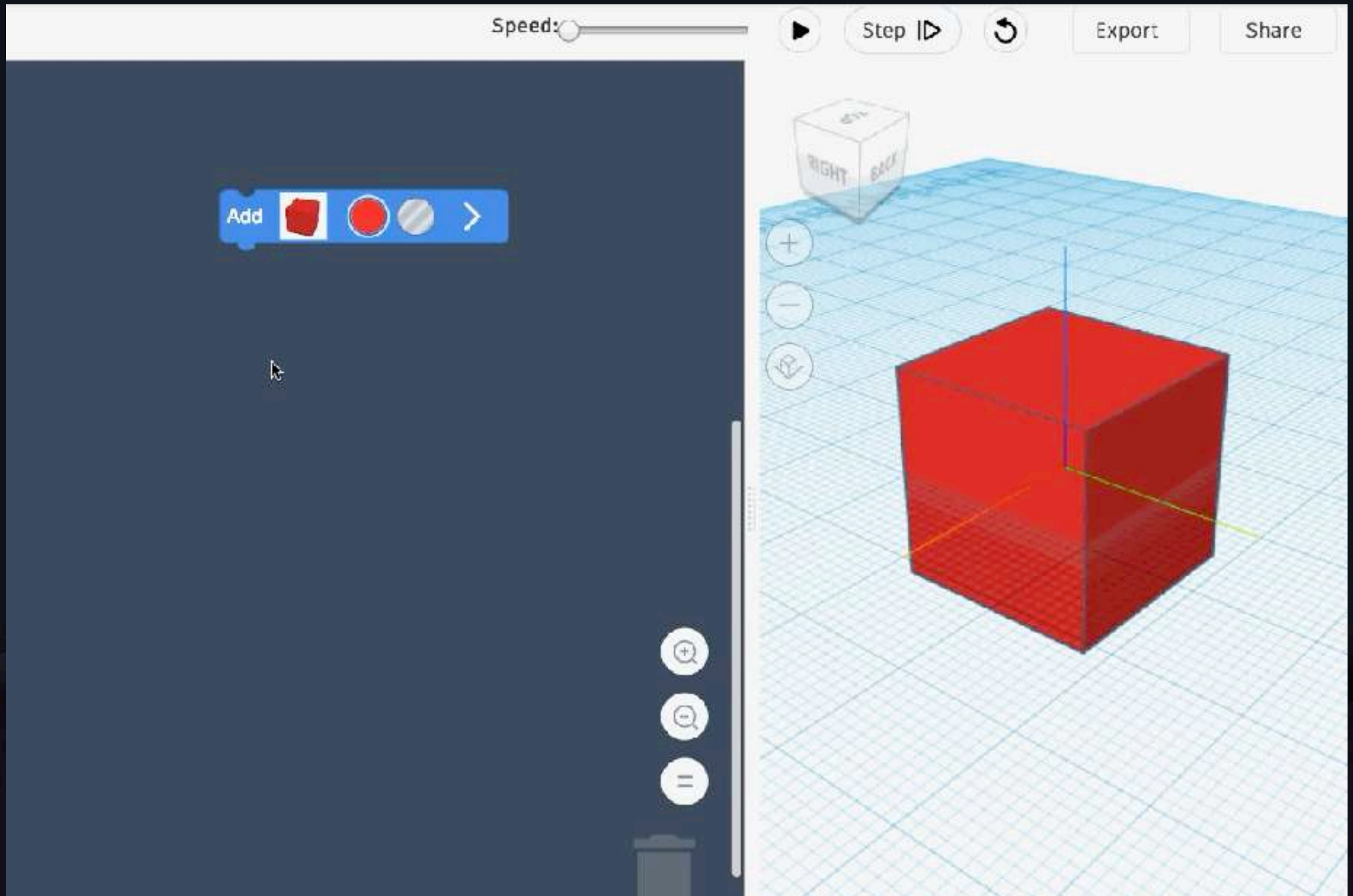




# Rotate shapes

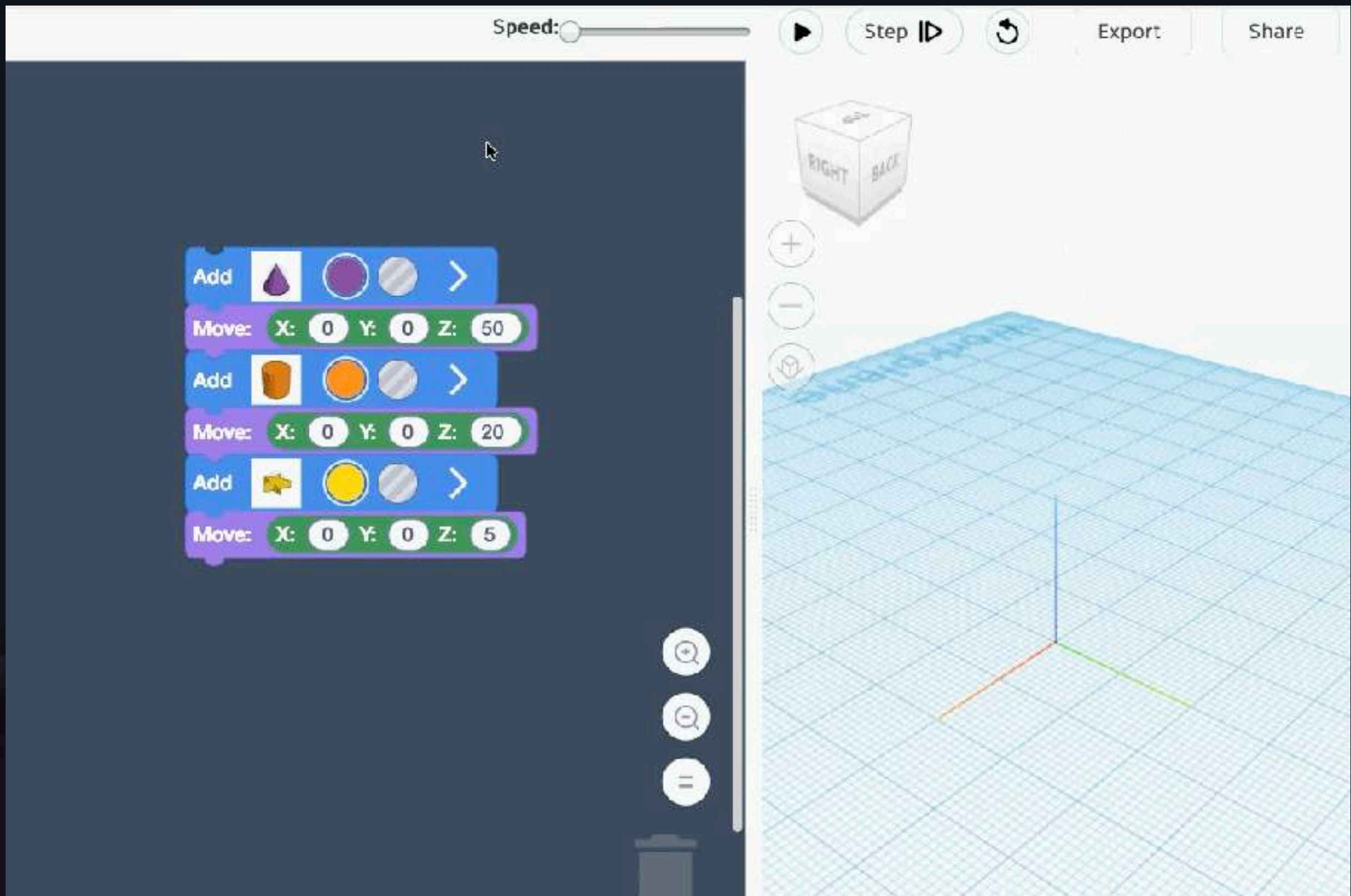


# Customize colors



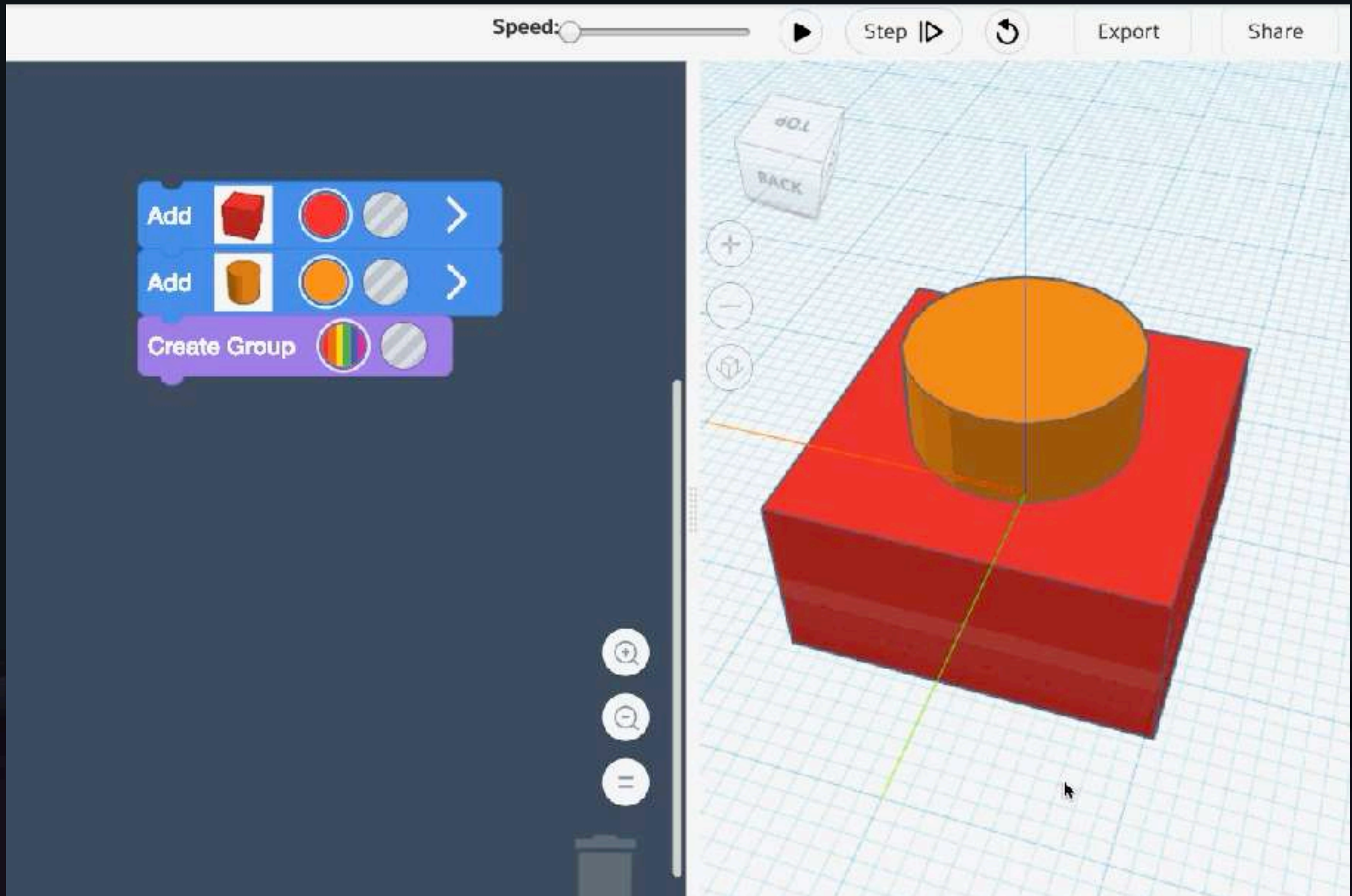


# String operations together

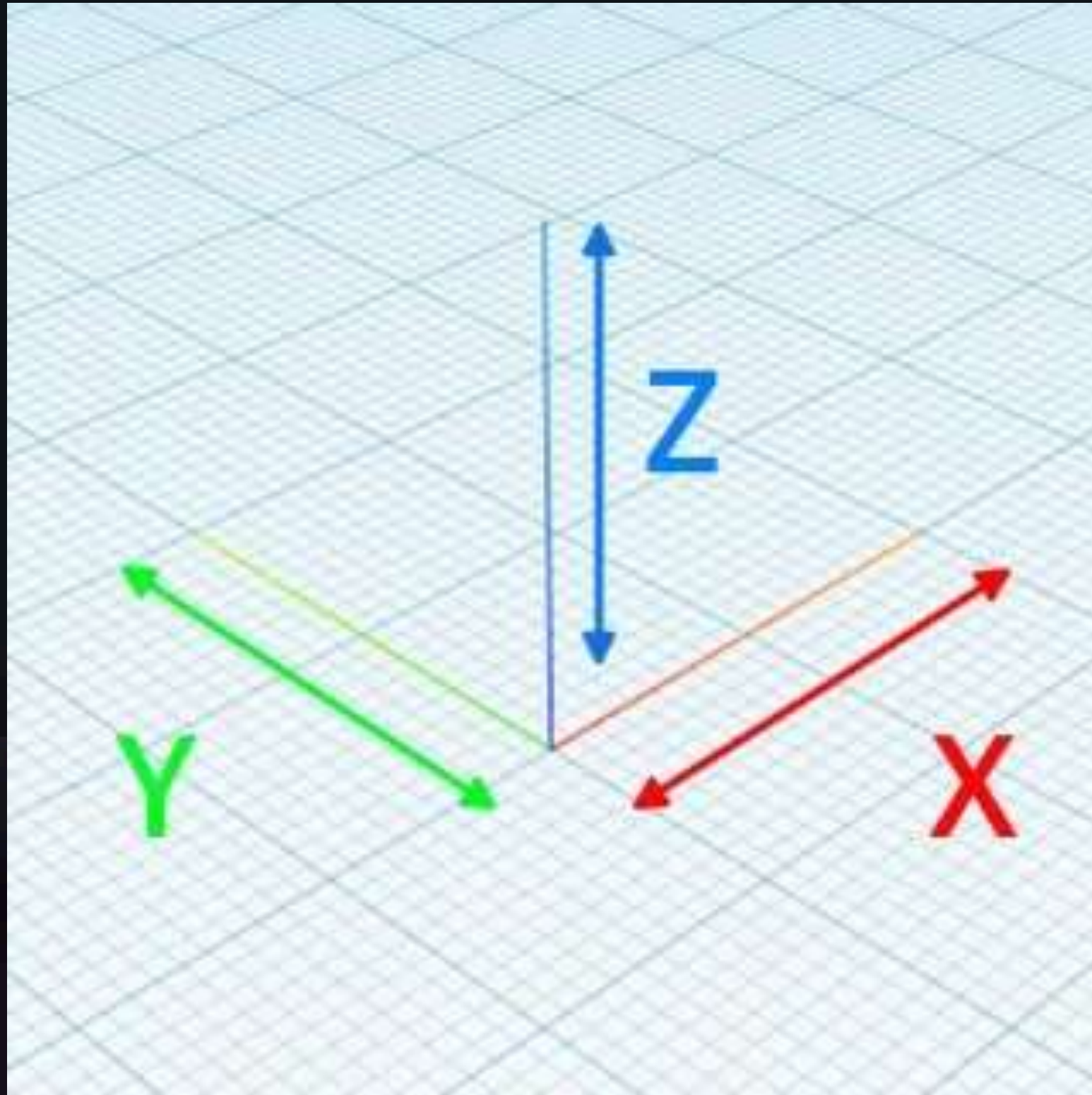




# Combine shapes

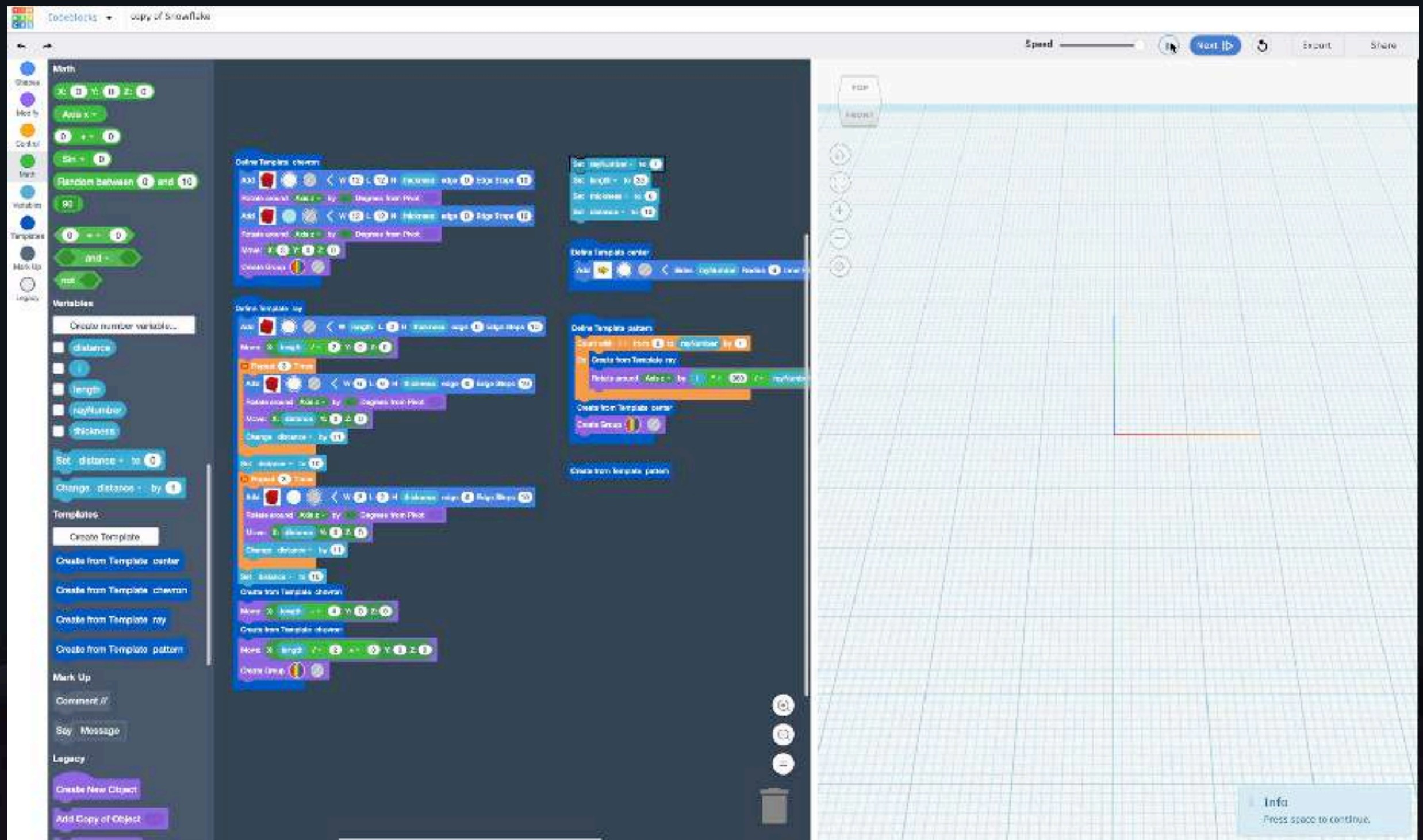


# XYZ Axis (coordinate system)





# Snow flake





# Variables

Variables

Create number variable...

- ☐ distance
- ☐ i
- ☐ length
- ☐ rayNumber
- ☐ thickness

Set distance to 0

Change distance by 1

Set rayNumber to 7

Set length to 35

Set thickness to 6

Set distance to 10

- Store numbers
- Edit stored numbers
- Do operations with stored numbers

Define Template pattern

Count with i from 0 to rayNumber by 1

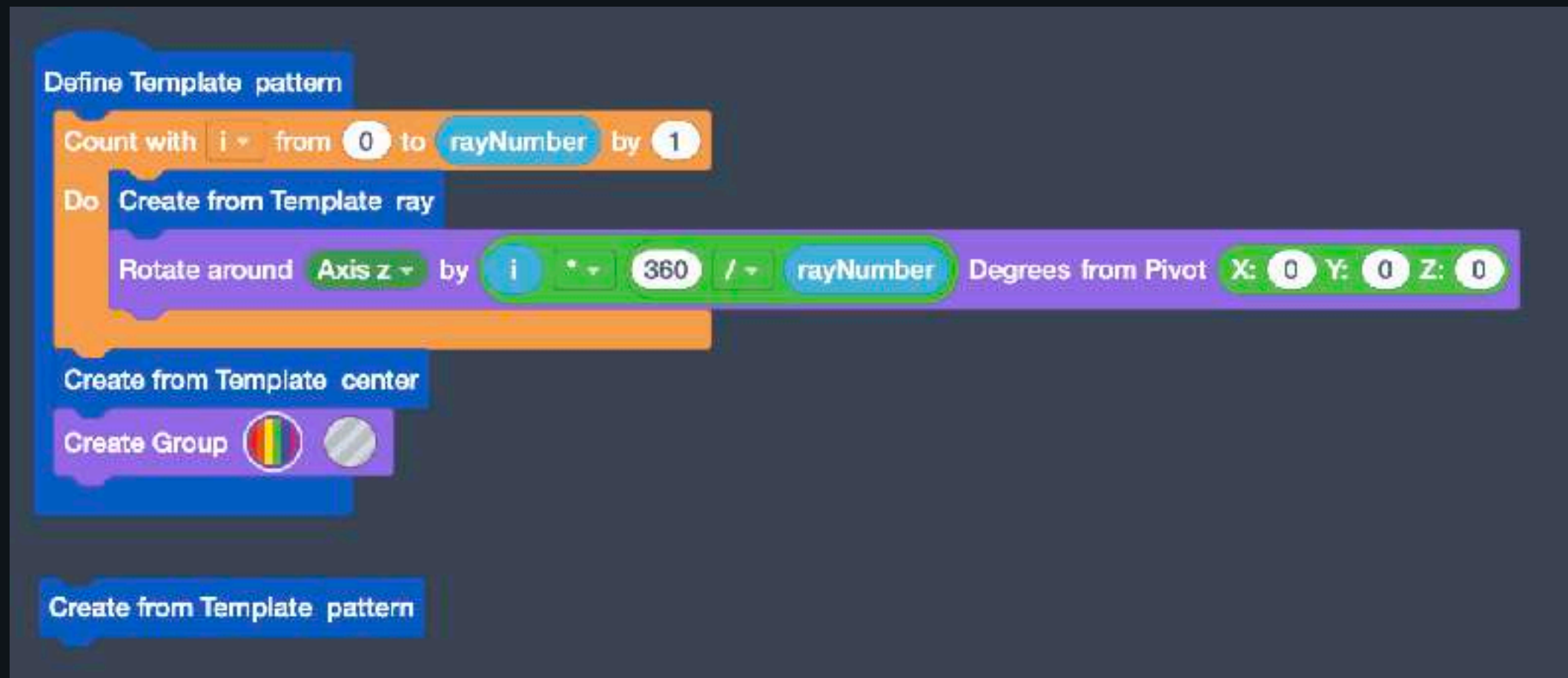
Do Create from Template ray

Rotate around Axis z by  $i * 360 / \text{rayNumber}$  Degrees from Pivot X: 0 Y: 0 Z: 0

Create from Template center

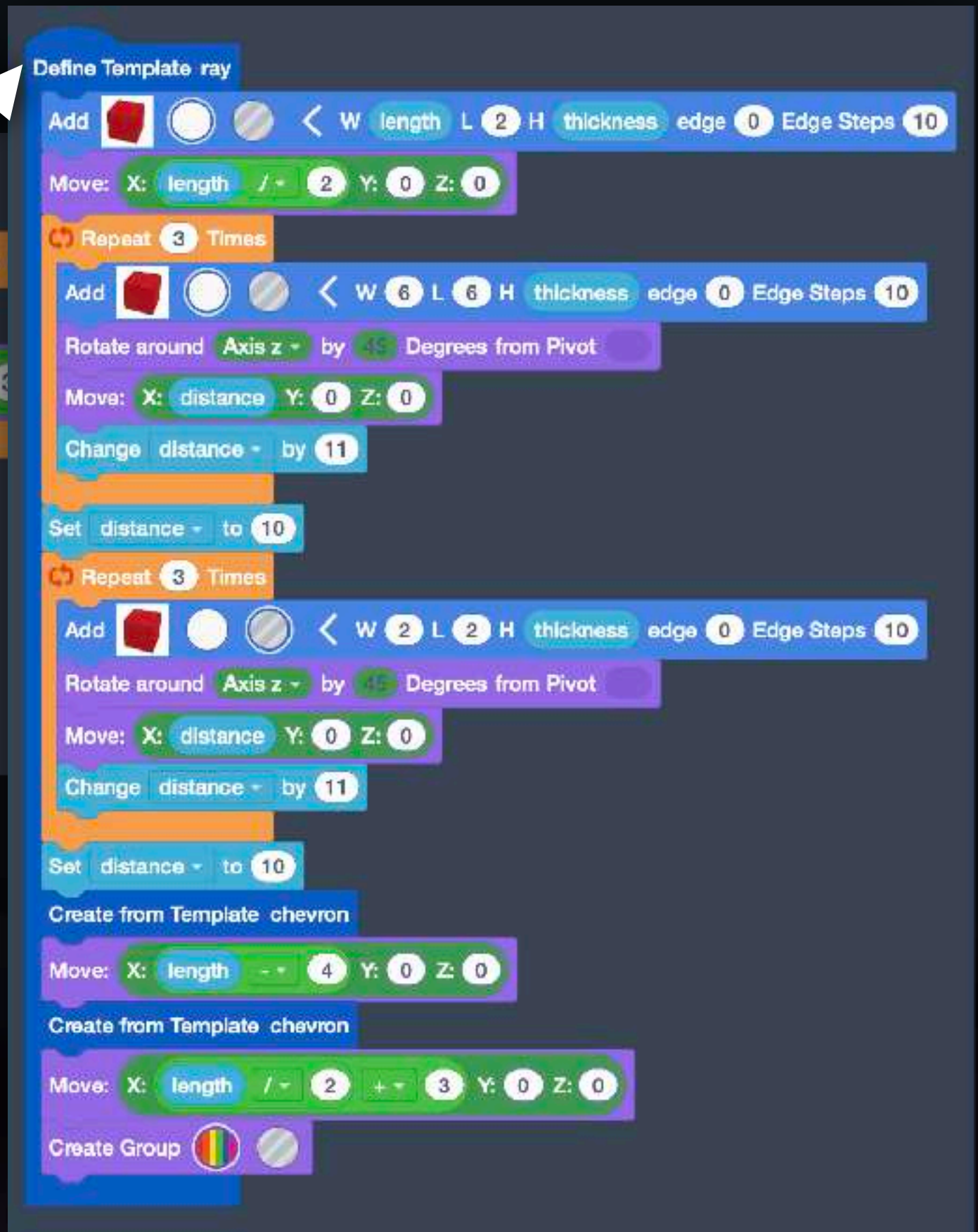
Create Group

# Templates



- Folders for code
- Nested folders

# Templates




- Folders for code
- Nested folders



# Templates

Define Template pattern

Define Template ray

Add    < W length L 2 H thickness edge 0 Edge Steps 10




Move: X: length / 2 Y: 0 Z: 0

Repeat 3 Times

Define Template chevron



Add    < W 12 L 12 H thickness edge 0 Edge Steps 10

Rotate around Axis z by 45 Degrees from Pivot

Add    < W 12 L 12 H thickness edge 0 Edge Steps 10

Rotate around Axis z by 45 Degrees from Pivot

Move: X: 3 Y: 0 Z: 0

Create Group  

H thickness edge 0 Edge Steps 10

from Pivot

H thickness edge 0 Edge Steps 10

from Pivot

Change distance by 11

Set distance to 10

Create from Template chevron

Move: X: length - 4 Y: 0 Z: 0

Create from Template chevron

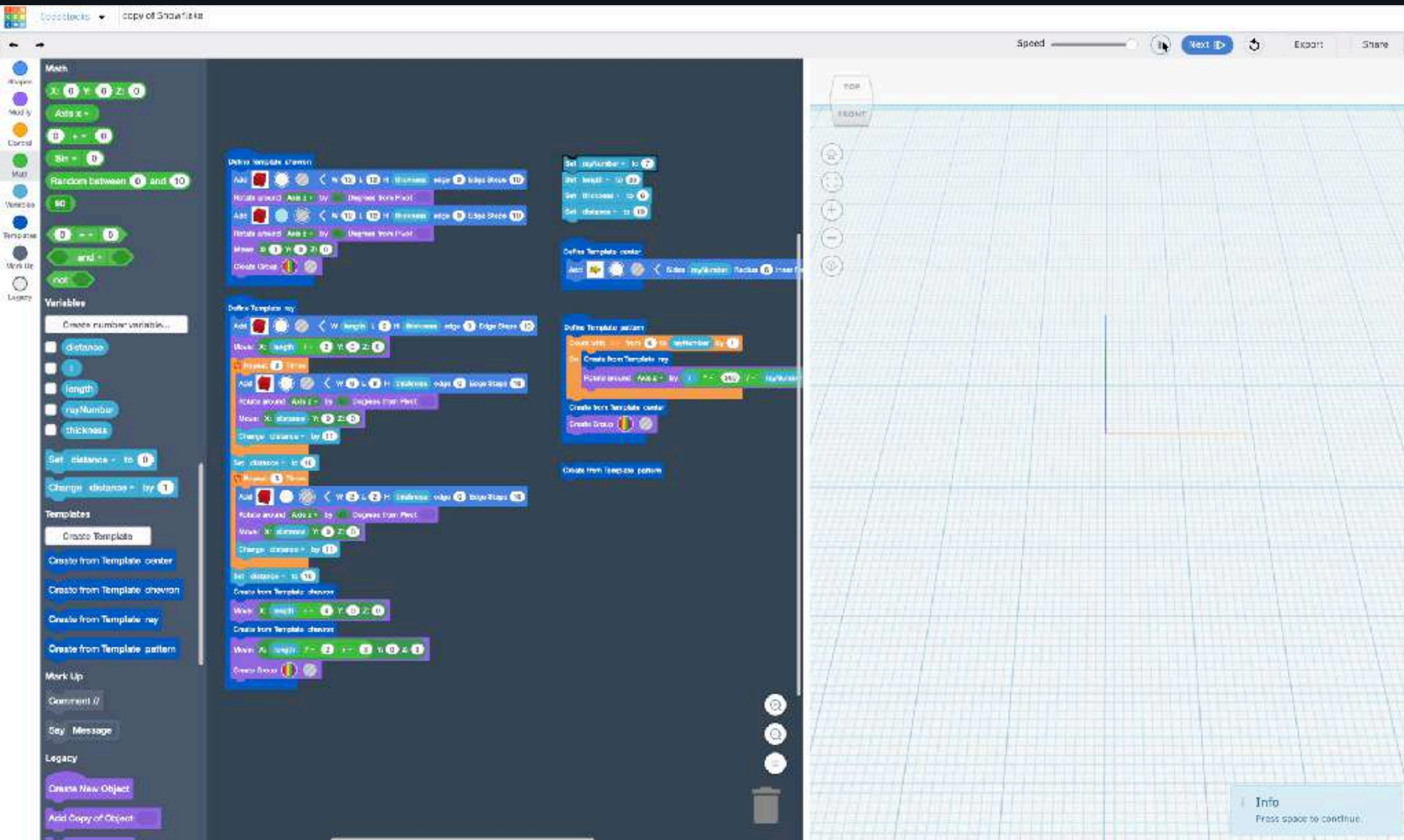
Move: X: length / 2 + 3 Y: 0 Z: 0

Create Group  

- Folders for code
- Nested folders



# Templates in action





# Exporting to STL

