Level 1
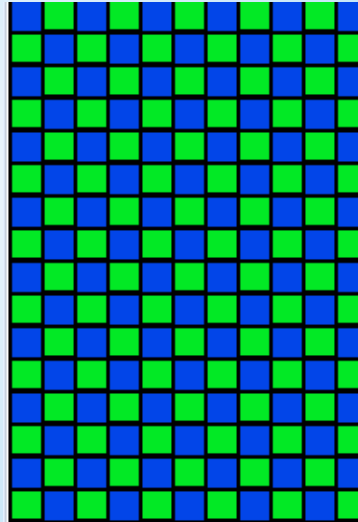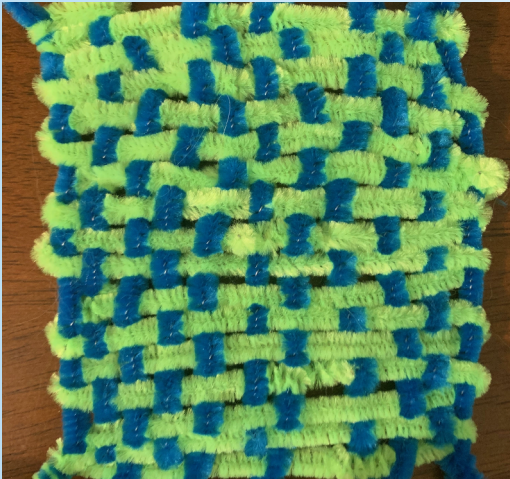# Loom to Grid
Translate the weaving into a grid pattern
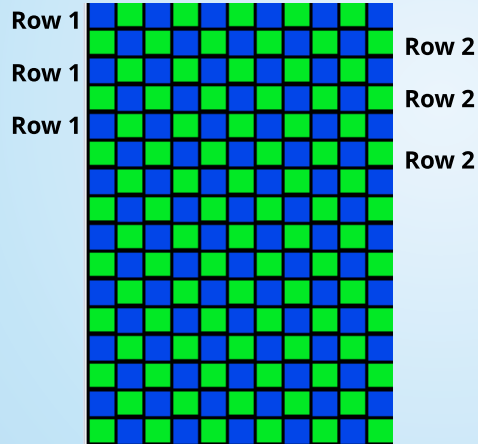
Level 2 Part 1
Grid to Box

Translate the grid pattern into a box pattern
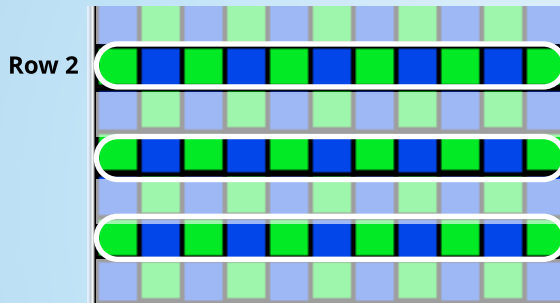
Write the sequence of rows
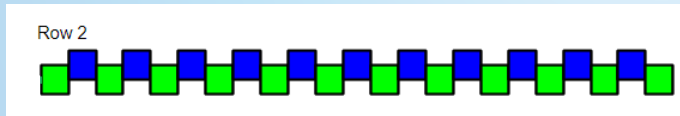
Look for repeating rows

Grid to Box

Translate the grid pattern into a box pattern

Row 2

Assign the color of the vertical strings as Up and the color of the horizontal strings as Down

Here ▇ **= Up and** ▇ **= Down**

Make a pattern for each row

Row 2

A completed row should look something like this
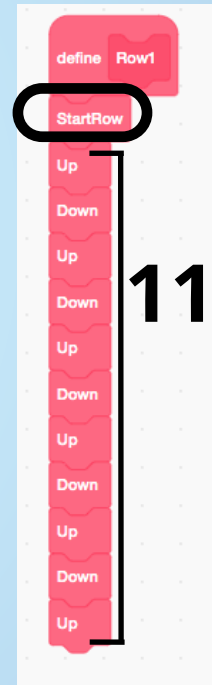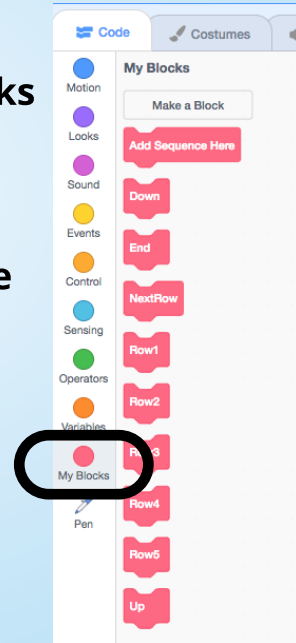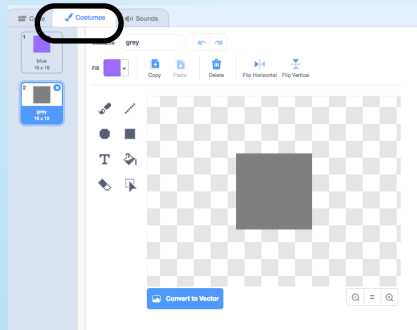
Level 3 Part 1
Box to Scratch

Translate the box pattern into long Scratch code

Code each of your rows in Scratch, using 11 Up and Down blocks total for each

Pink blocks can be found in the More Blocks section

Make sure to keep the StartRow block

Change the colors of your pattern with the costumes tab

Box to Scratch

Translate the box pattern into long Scratch code

Code the sequence of rows in Scratch

Make sure to keep the Start Row block at the top

You can repeat the pattern as many times as you want, but the screen will only hold 19 rows

Click 🚩 **to see if your pattern matches your grid**

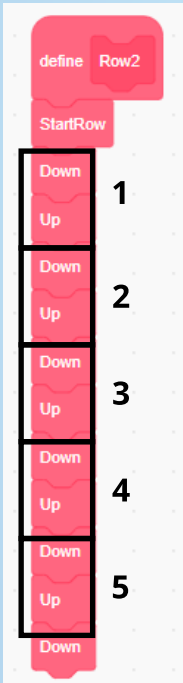| Row 1 |
|-------|
| Row 2 |
| Row 1 |
| Row 2 |
| Row 1 |
| Row 2 |
| Row 1 |
| Row 2 |

⋮

Level 4 Part 1
Long to Short Scratch

Translate the longer Scratch code into shorter Scratch code

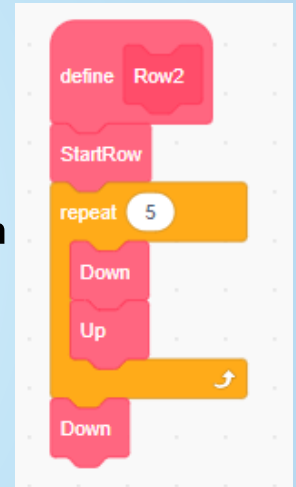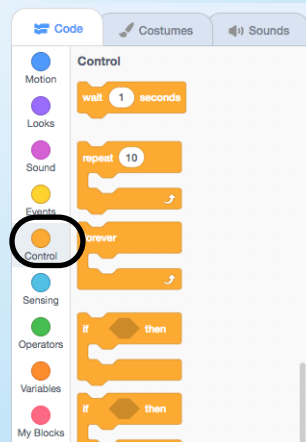**Look for repeating sections of code in the rows**

Count how many times those sections repeat

Replace duplicates with repeat blocks

Repeat blocks can be found in the Control section

Do this for each row

Remember there are different ways to do this, depending on your pattern

Level 4 Part 2
Long to Short Scratch

Translate the longer Scratch code into shorter Scratch code
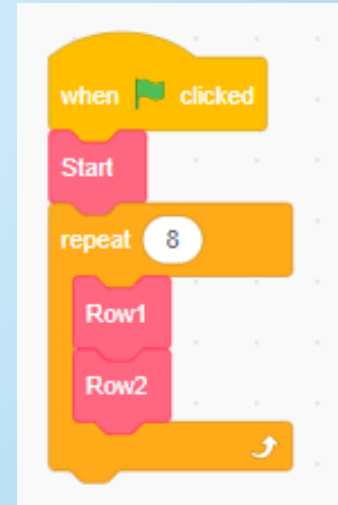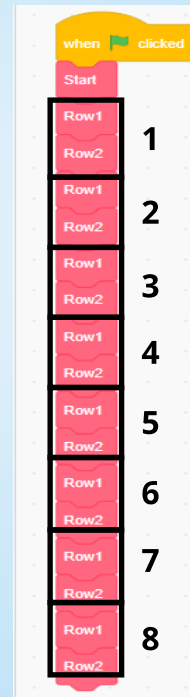
Look for repeating sections in your rows

Count how many times those sections repeat

Replace duplicates with repeat blocks

Repeat blocks can be found in the Control section

Remember there are different ways to do this, depending on your pattern

Click 🏳 to see if your pattern matches your grid
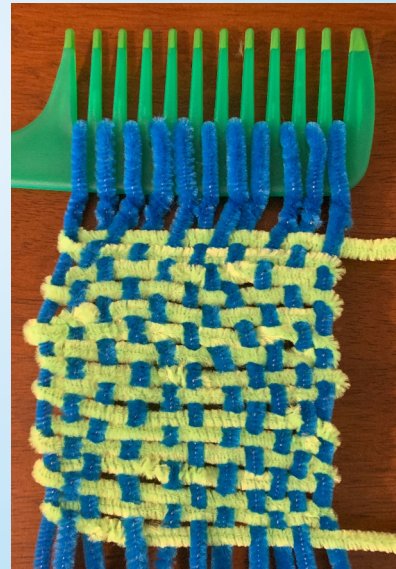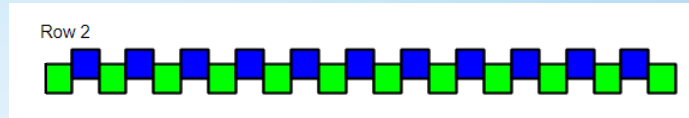
Modify and Customize

Create your own patterns and weaving

Modify your Scratch pattern or create a new one

When using the box pattern to weave, each box represents one pipe cleaner on the comb

If a box is up, then that pipe cleaner is pushed up

If a box is down, then that pipe cleaner stays down

Row 2

Customizing Tips

Make sure your edges are alternating colors, (blue, green, blue, green) otherwise your weaving will fall apart.

If you're having trouble with ideas, try using the same rows in your Scratch code and just changing the sequence