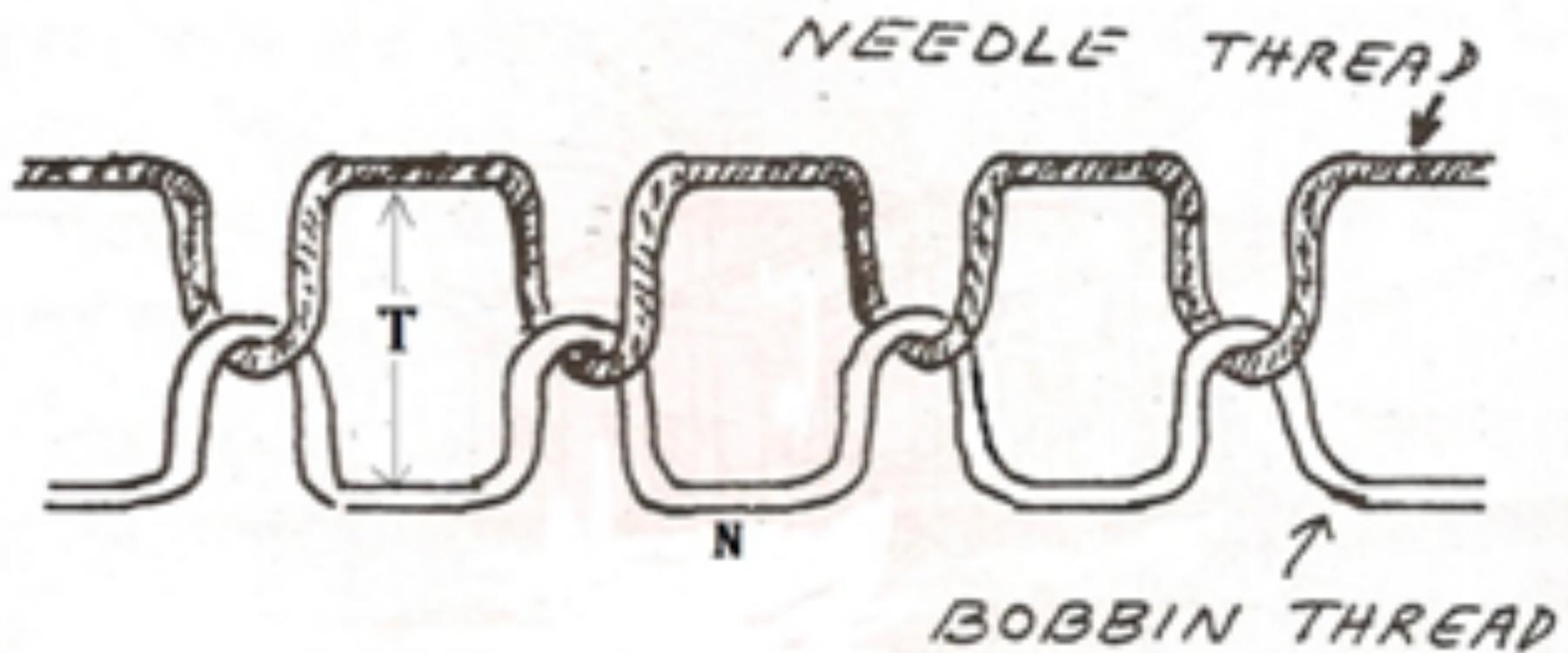
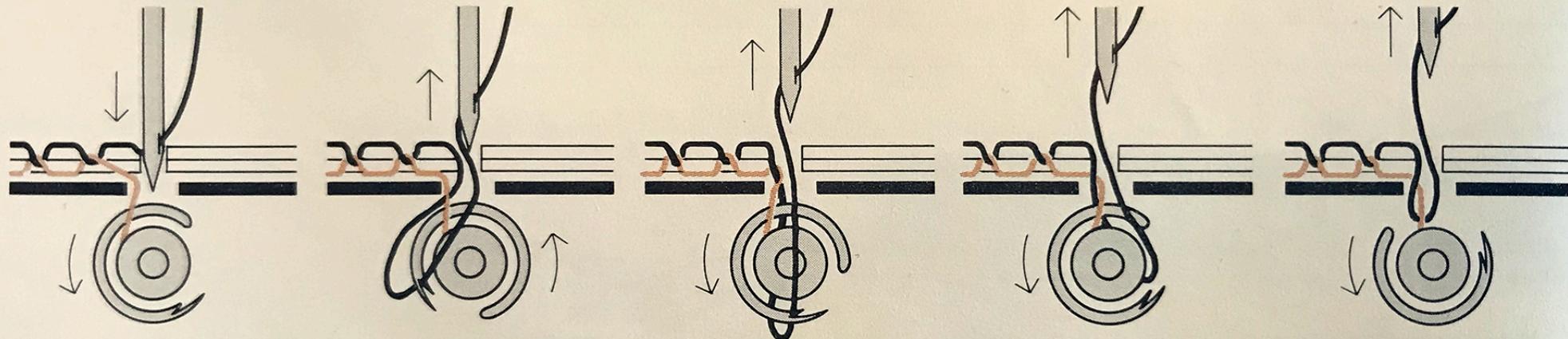


Machine Embroidery



Lockstitch





1. Needle penetrates the fabric to bring top thread into bobbin area.

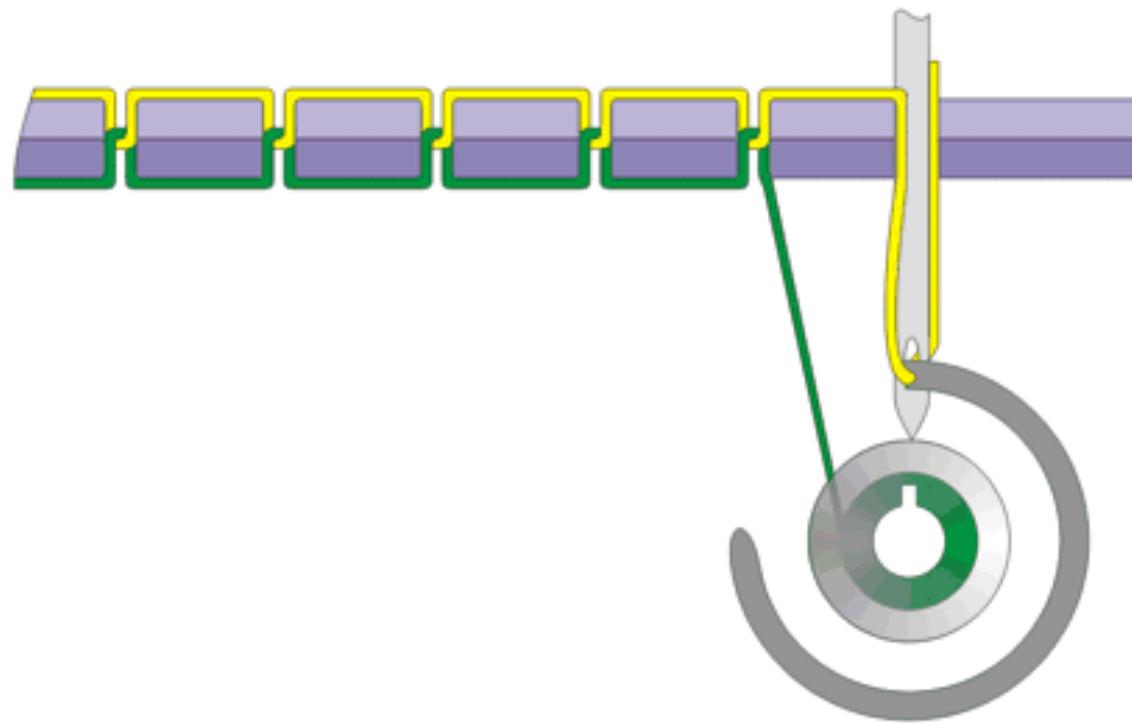
2. As needle rises, top thread forms a loop for shuttle hook to catch.

3. Shuttle hook carries thread loop around and under the bobbin case.

4. Loop slides off hook and bobbin case, goes around bobbin thread.

5. Threads are pulled up and are set into the fabric as a lockstitch.

From Reader's Digest Book of Sewing



<https://en.wikipedia.org/wiki/Lockstitch>

Low-level Stitches

JUMP

- Move to position without dropping needle**

STITCH

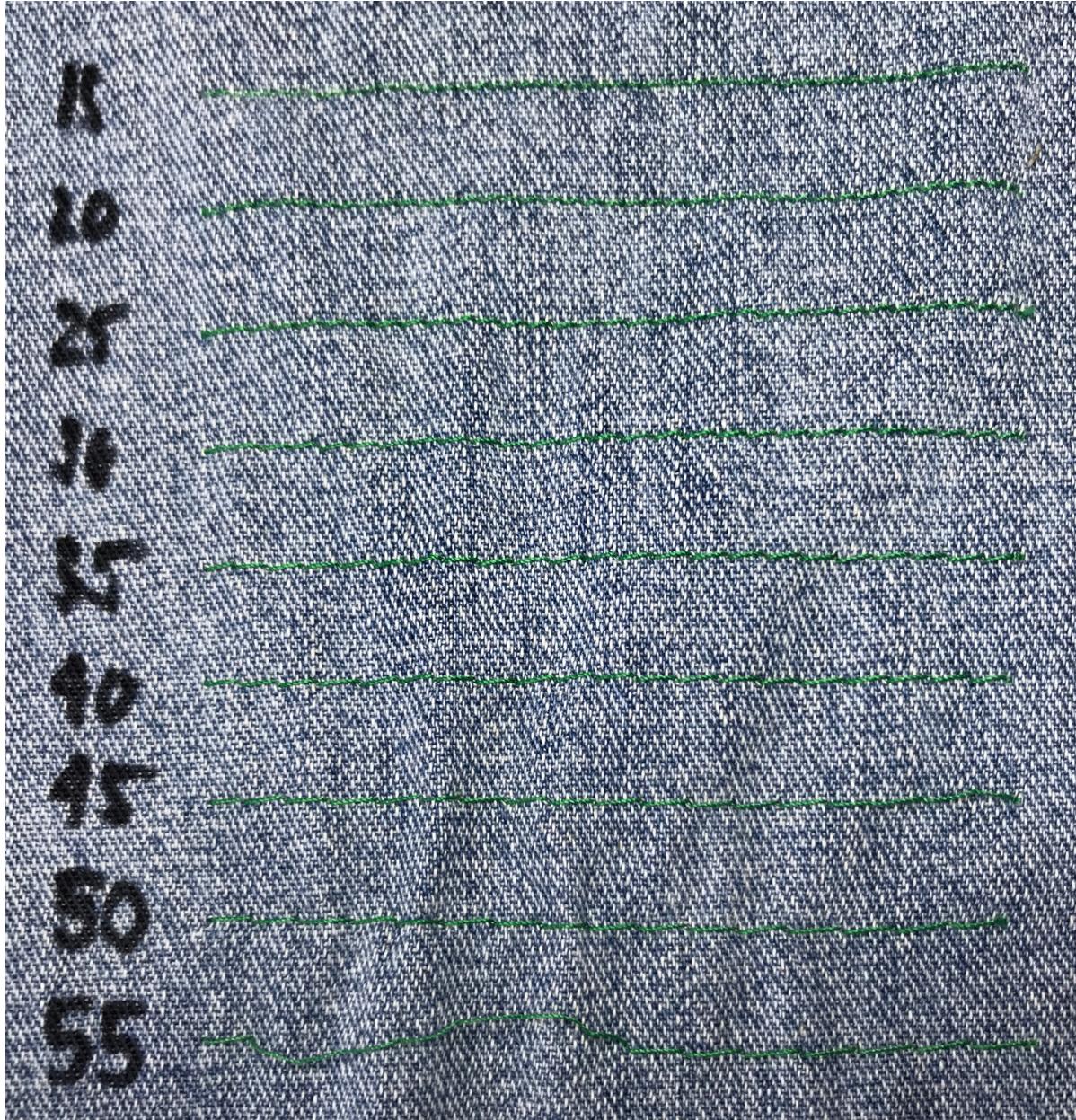
- Move to position and drop needle once to make a stitch**

COLOR_CHANGE / STOP

- pause the machine (for applique, thread-change, etc)**

TRIM (optional)

- trim the thread (for supported machines and file formats)**



Running Stitch (different stitch lengths)

```
import pyembroidery as emb

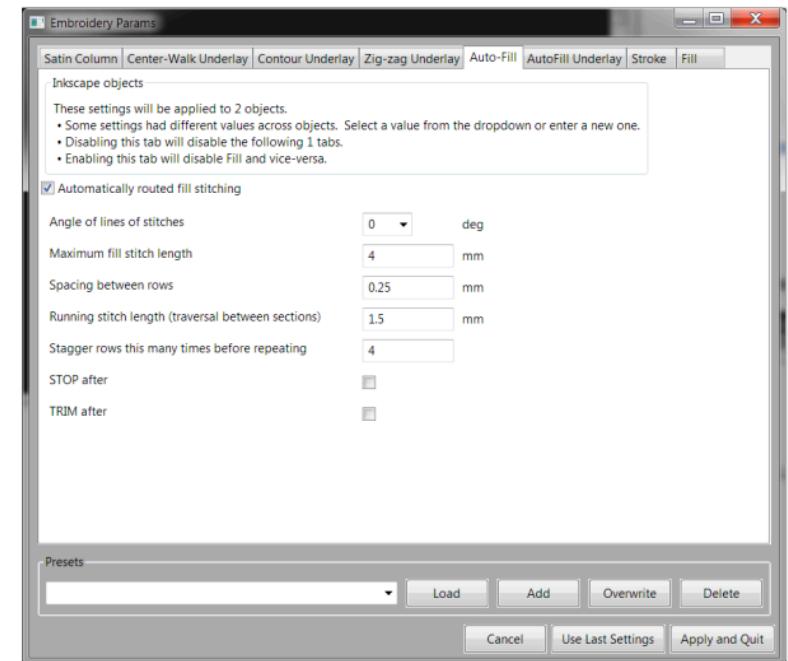
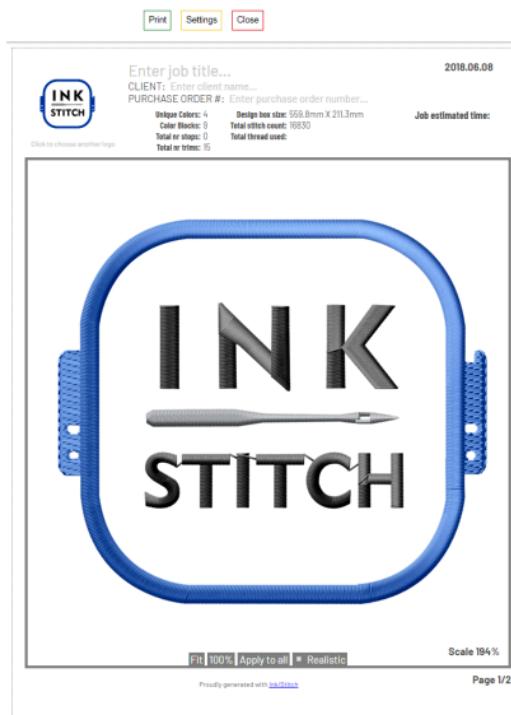
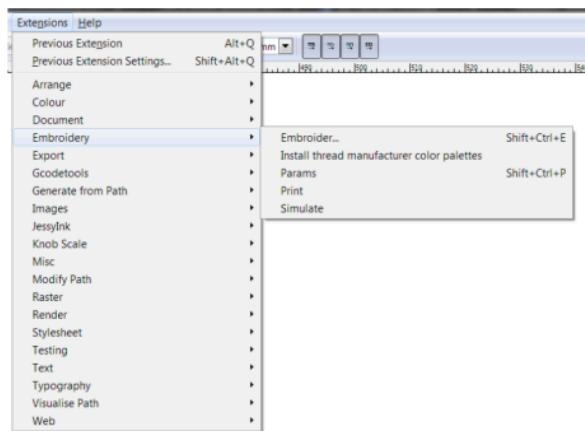
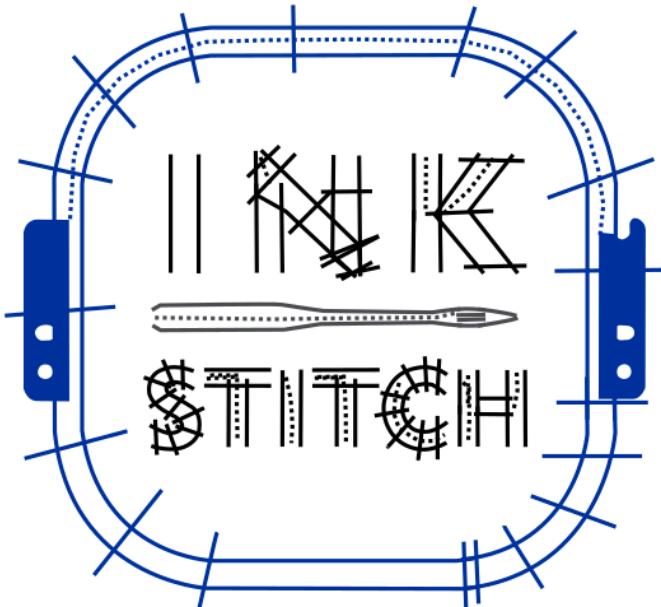
def straight(pattern, y, length):
    pattern.add_stitch_absolute(emb.JUMP,100,y)
    for x in range(100,900,length):
        pattern.add_stitch_absolute(emb.STITCH, x,y)
    if x != 900:
        pattern.add_stitch_absolute(emb.STITCH, 900,y)
    pattern.add_command(emb.STOP)

def rows():
    pattern = emb.EmbPattern()
    pattern.add_thread( EmbThread.get_thread_set()[1] )
    for y in range(100,1000,100):
        straight(pattern, y, 10+y//20)
    pattern.add_command(emb.END)
    return pattern

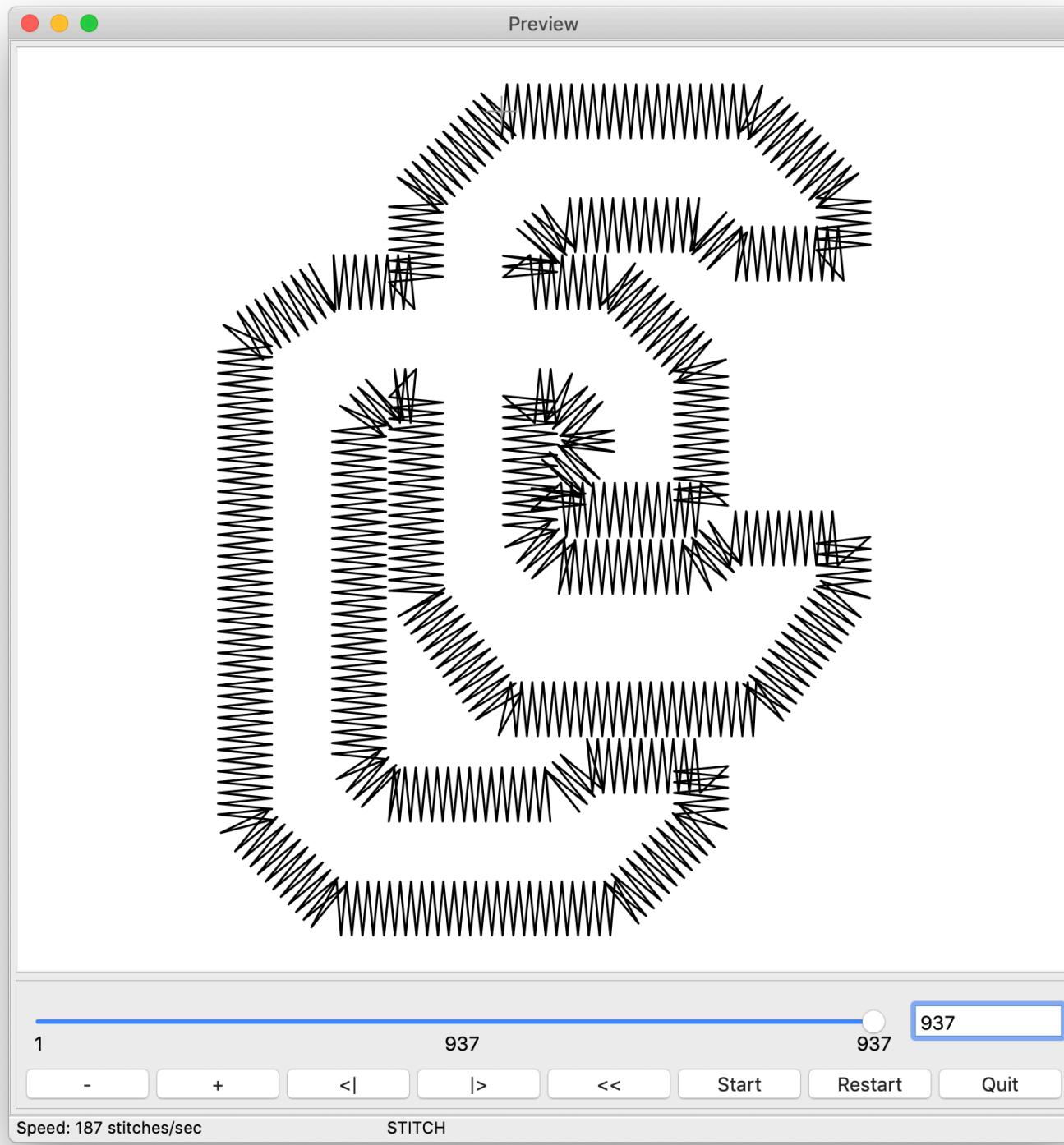
def test_straight():
    pattern = rows()
    emb.write(pattern, "straight.pes")

test_straight()
```

```
def get_thread_set():
    return [
        EmbThreadPec(0, 0, 0, "Unknown", "0"),
        EmbThreadPec(14, 31, 124, "Prussian Blue", "1"),
        EmbThreadPec(10, 85, 163, "Blue", "2"),
        EmbThreadPec(0, 135, 119, "Teal Green", "3"),
        EmbThreadPec(75, 107, 175, "Cornflower Blue", "4"),
        EmbThreadPec(237, 23, 31, "Red", "5"),
        EmbThreadPec(209, 92, 0, "Reddish Brown", "6"),
        EmbThreadPec(145, 54, 151, "Magenta", "7"),
        EmbThreadPec(228, 154, 203, "Light Lilac", "8"),
        EmbThreadPec(145, 95, 172, "Lilac", "9"),
        EmbThreadPec(158, 214, 125, "Mint Green", "10"),
        EmbThreadPec(232, 169, 0, "Deep Gold", "11"),
        EmbThreadPec(254, 186, 53, "Orange", "12"),
        EmbThreadPec(255, 255, 0, "Yellow", "13"),
        EmbThreadPec(112, 188, 31, "Lime Green", "14"),
        EmbThreadPec(186, 152, 0, "Brass", "15"),
        EmbThreadPec(168, 168, 168, "Silver", "16"),
    ...]
```



inkstitch.org



Girl-Code Logo





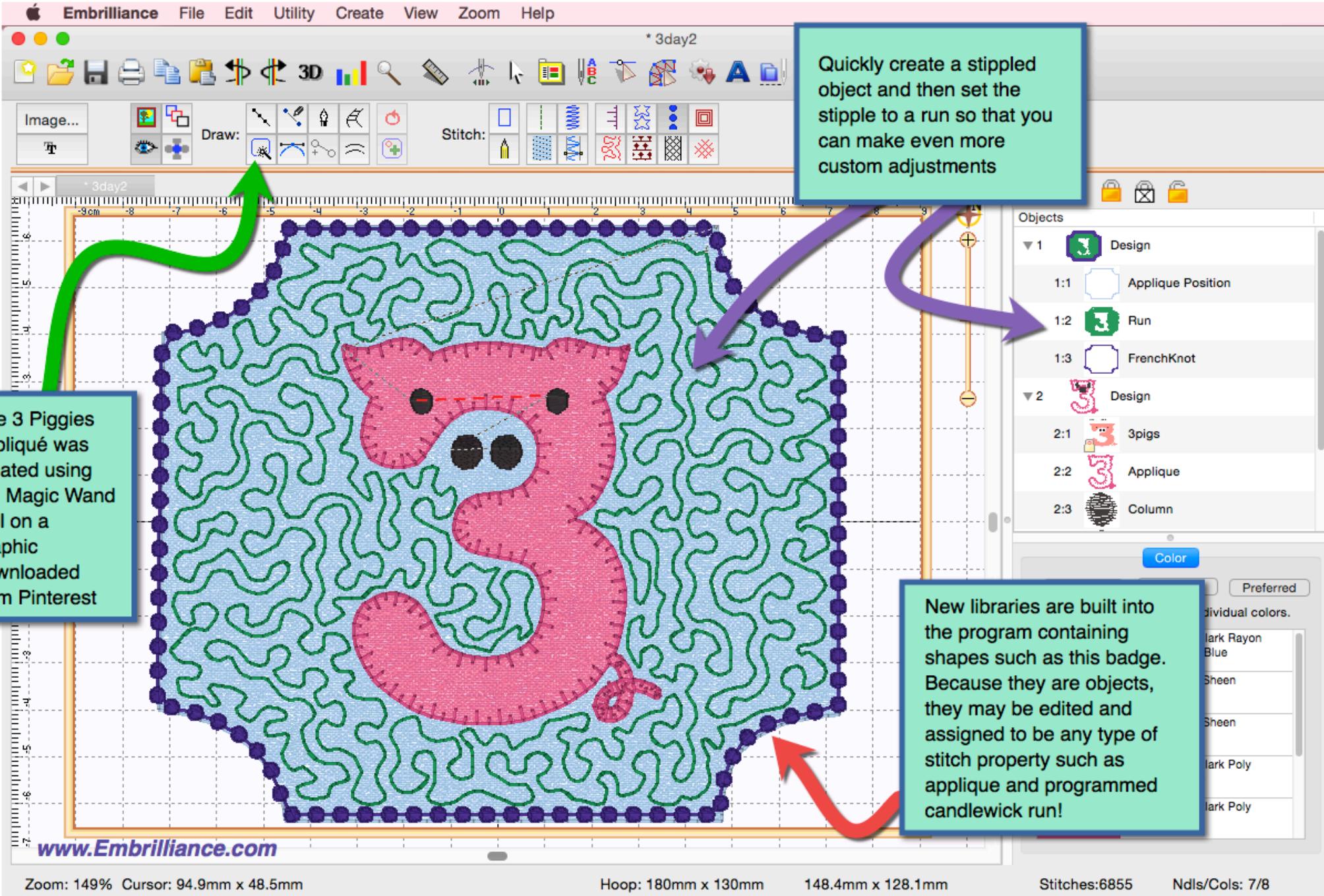
Back and Forth Satin Stitch



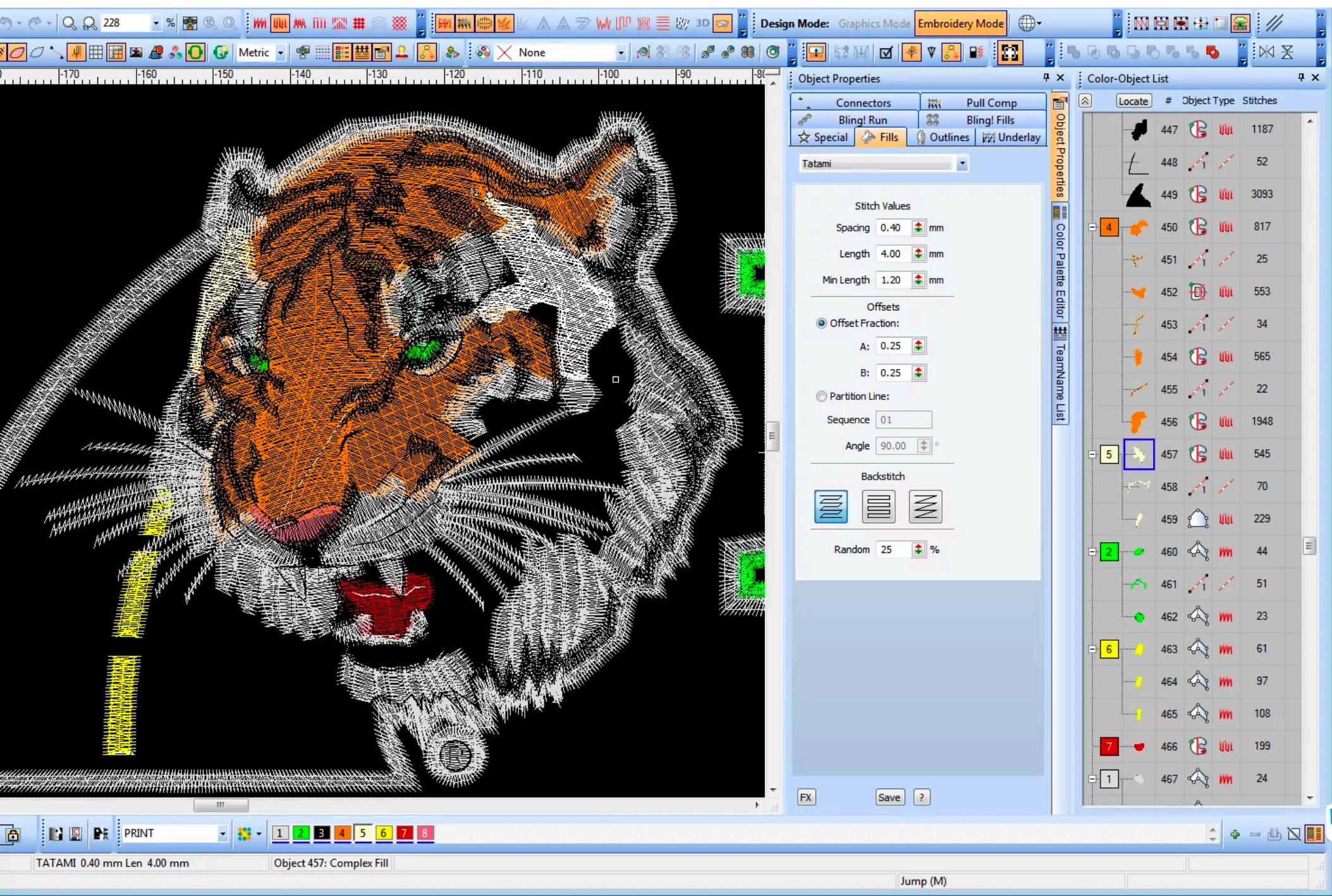
Fill Stitch (Tatami Stitch)



Fill Stitch



Embrilliance



<https://www.mrxstitch.com/proficient-digitizing/>

Inspiration

