

PyCon US · 24

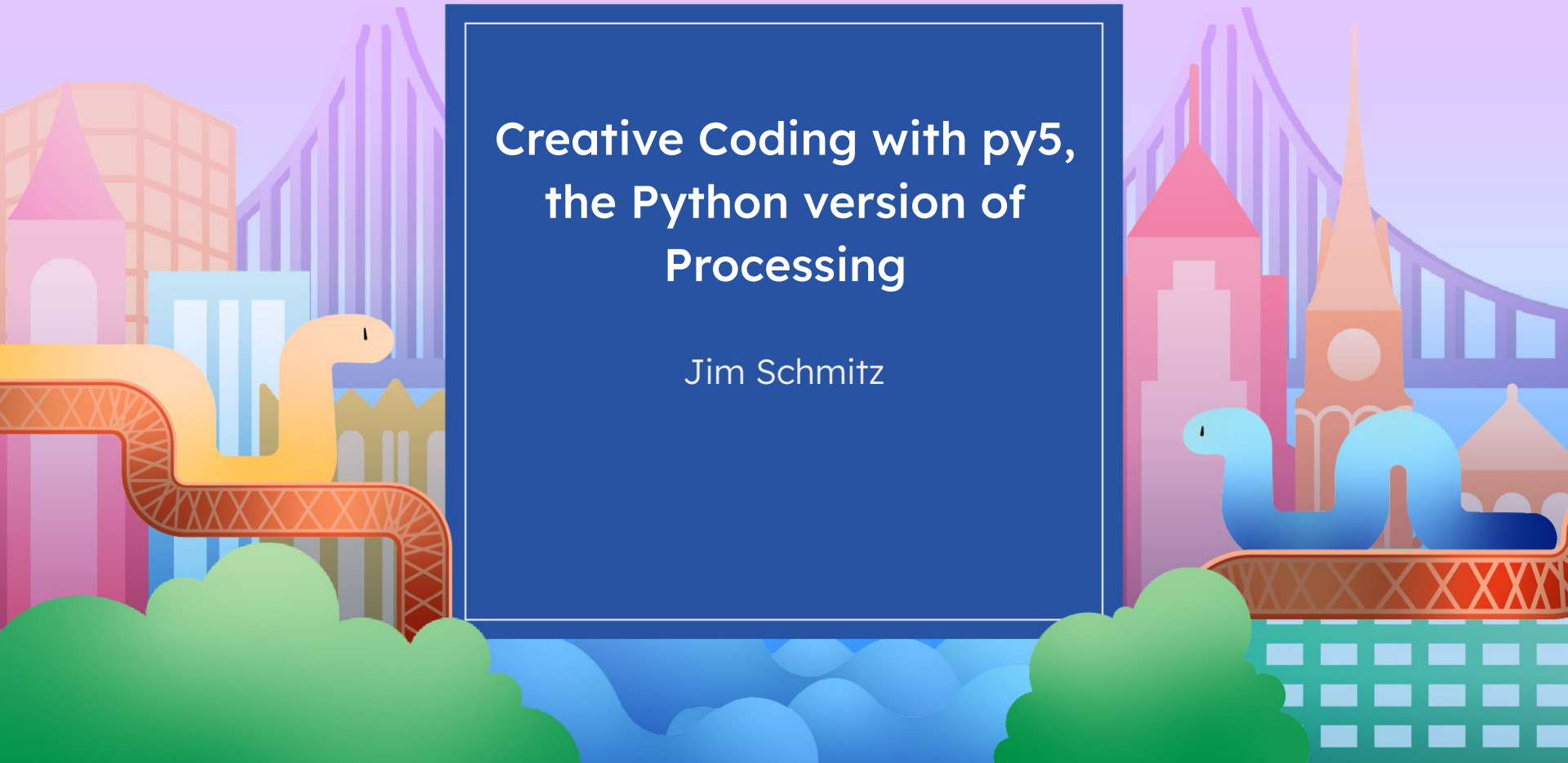
By the community, for the community



<https://github.com/hx2A/pycon2024>

Creative Coding with py5, the Python version of Processing

Jim Schmitz



```
1  import py5
2
3
4  def setup():
5      py5.size(500, 500)
6      py5.stroke_weight(2)
7      py5.rect_mode(py5.CENTER)
8      py5.background("gray")
9
10
11 def draw():
12     py5.rect(py5.mouse_x, py5.mouse_y, 50, 50)
13
14
15 def mouse_pressed():
16     py5.fill(py5.random(255), py5.random(255), py5.random(255))
17
18
19 def key_pressed():
20     py5.background("gray")
21
22
23 py5.run_sketch()
```

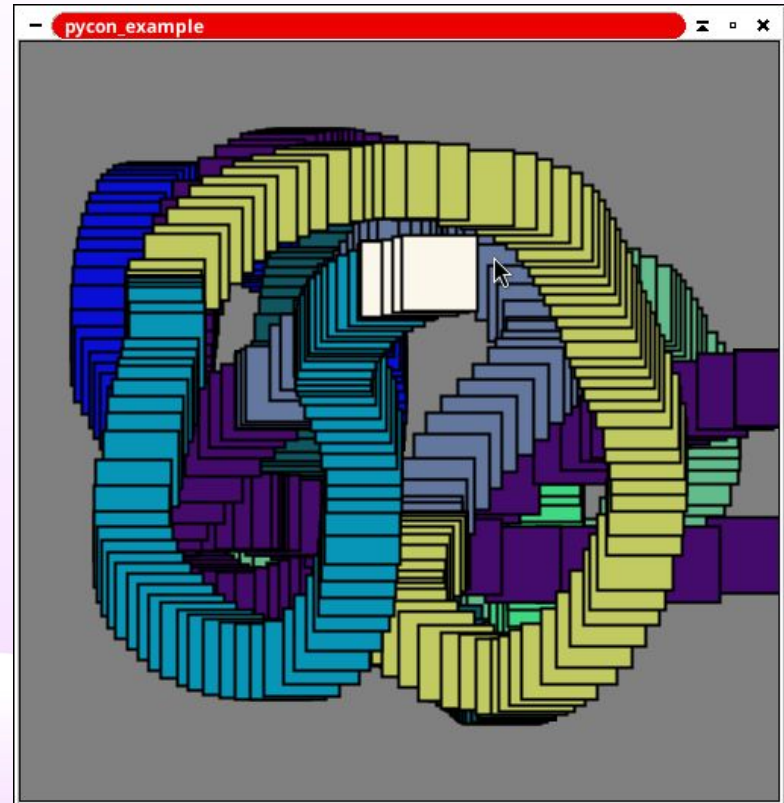
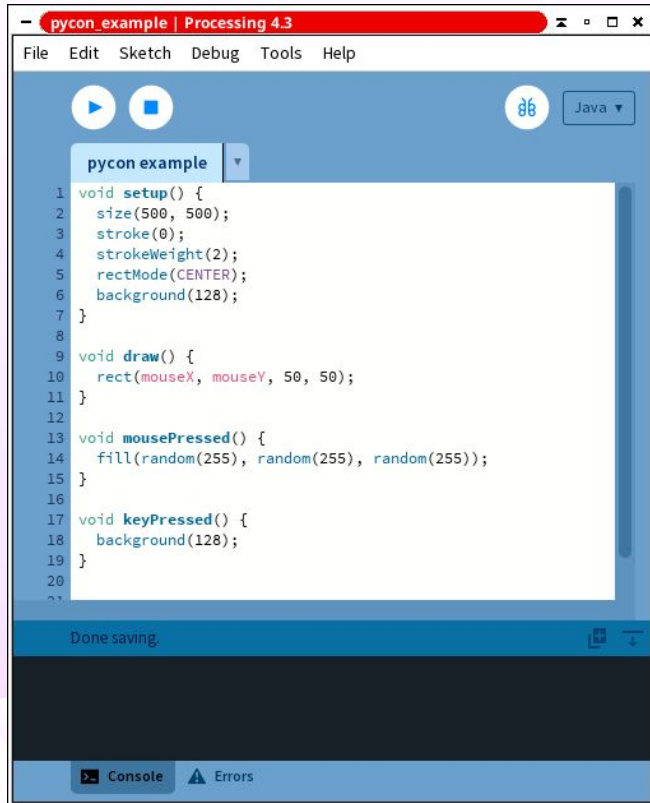
Overview

- All about Processing
- Introduce py5
- py5 and the Python Ecosystem
- py5 Applications

What is Processing?

- Java-based Creative Coding framework
- Started at MIT in 2001 by Ben Fry and Casey Reas
- Users include beginner coders, hobbyists, designers, educators, artists, ...

What is Processing?



Processing Community

Inclusive community that welcomes people from all
backgrounds and coding abilities

Other Versions of Processing

<u>Name</u>	<u>Language</u>
Processing	Java
processing.js	JavaScript
P5	JavaScript
processing.py	Jython
Processing for Android	Android (Java)
JRubyArt	Ruby
p5py	Python
py5	Python

What is py5?

Goal: Create a version of Processing for Python that is integrated into the Python Ecosystem

Let's See Some py5 Examples!

py5 Programming Modes

- Static Mode
- Imported Mode
- Module Mode
- Class Mode

But Wait, There's More:

- Hybrid Programming (Java + Python) is also possible
- py5's relationship with Java is a powerful asset

py5 Integrations

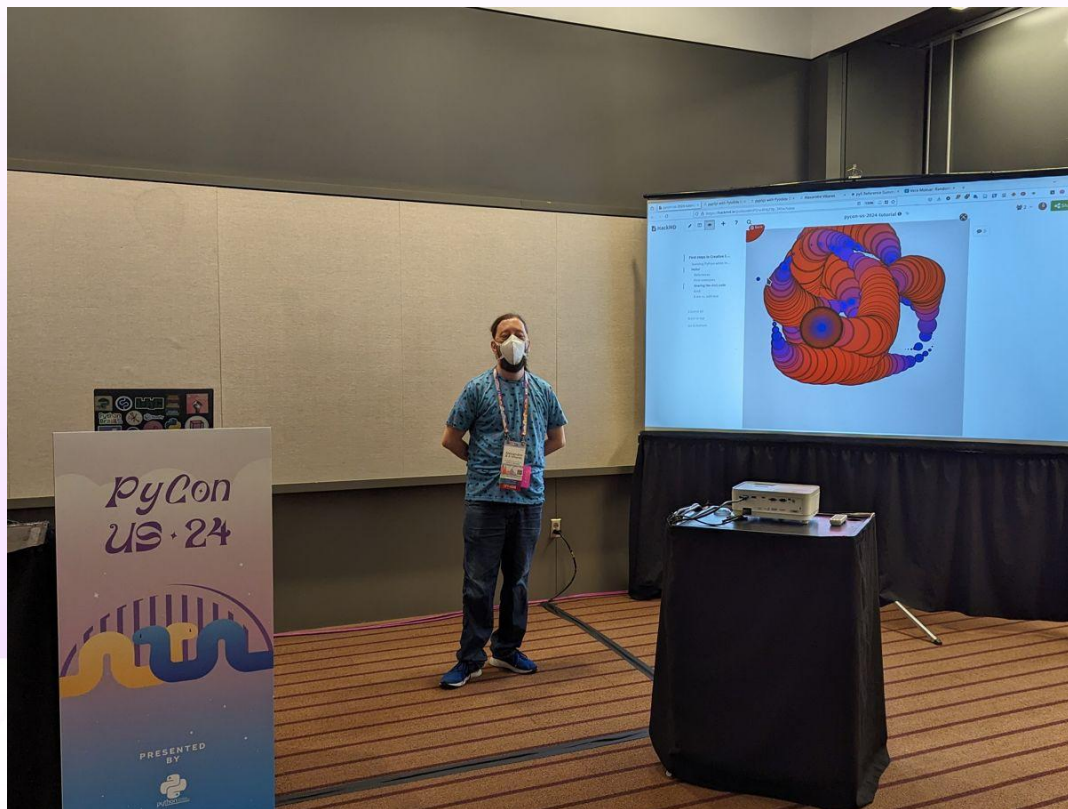
- Jupyter
- line_profiler
- numpy
- matplotlib
- Shapely
- Trimesh
- Pillow
- Colour
- Cairo
- ...more to come!

Future py5 Integrations...

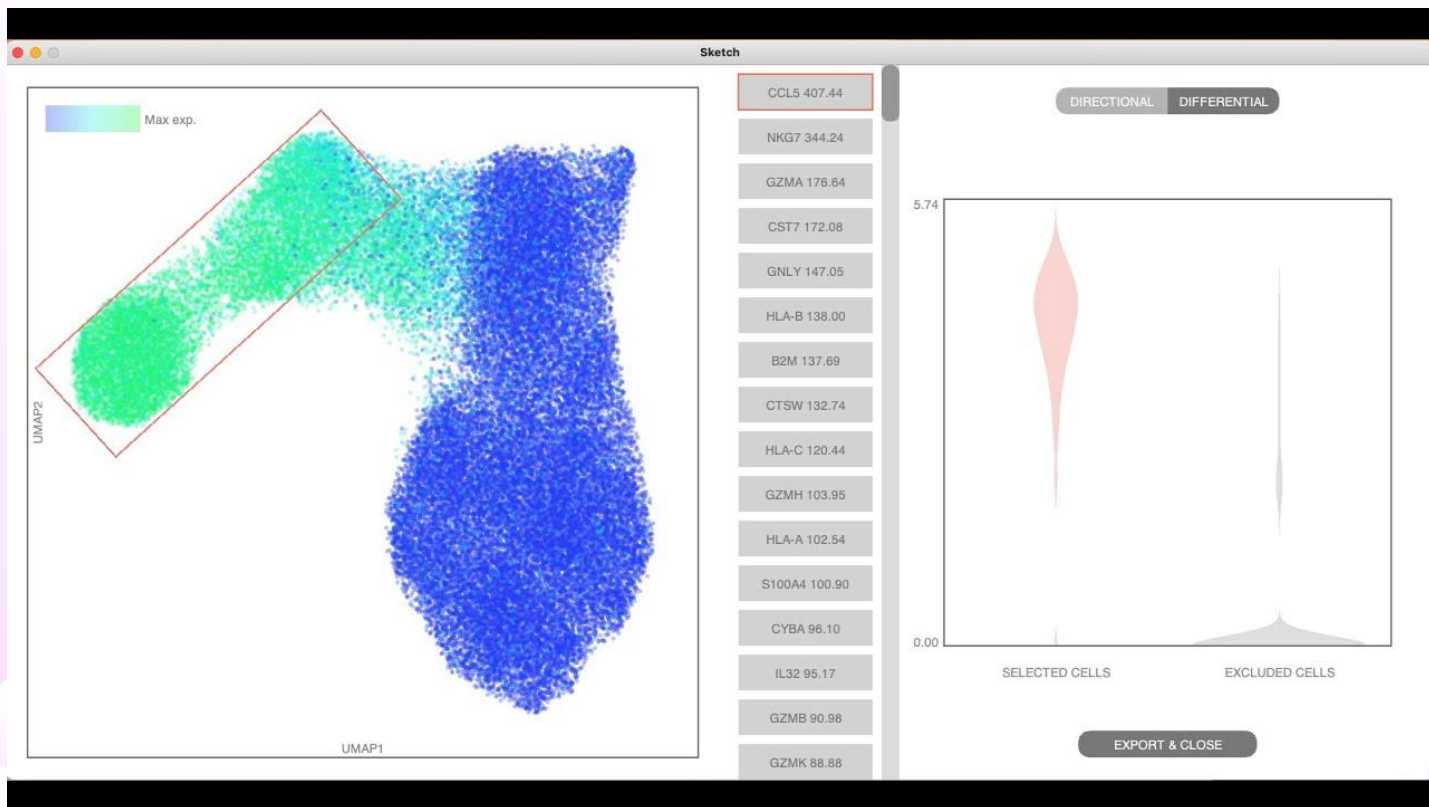
Suggestions Welcome!

py5 Applications

Education with py5



Data Visualization with py5

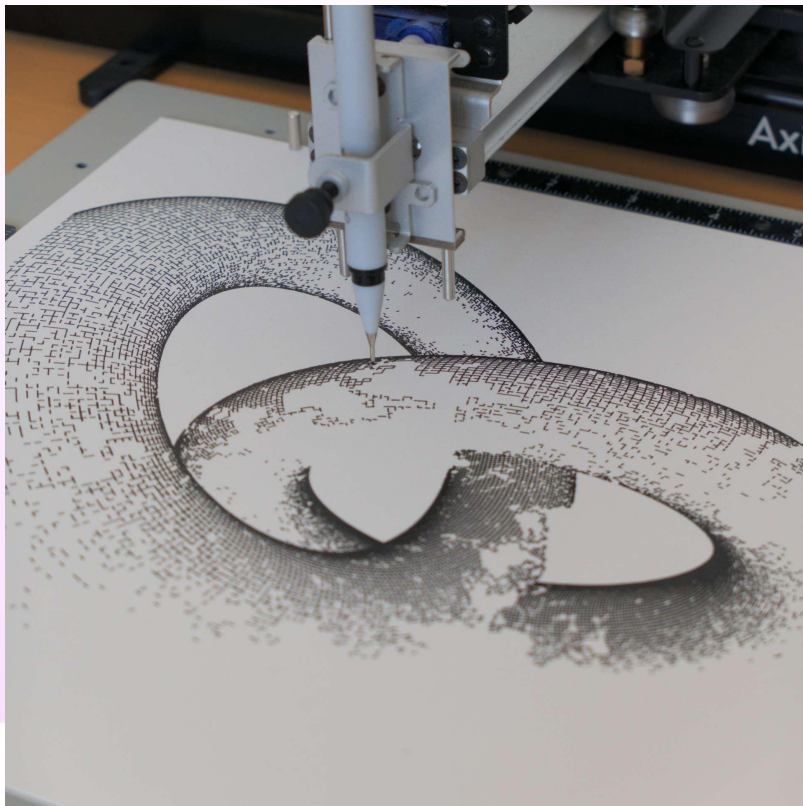


Art with py5



The Breath Eaters (2023)
by Marina Zurkow and Jim Schmitz

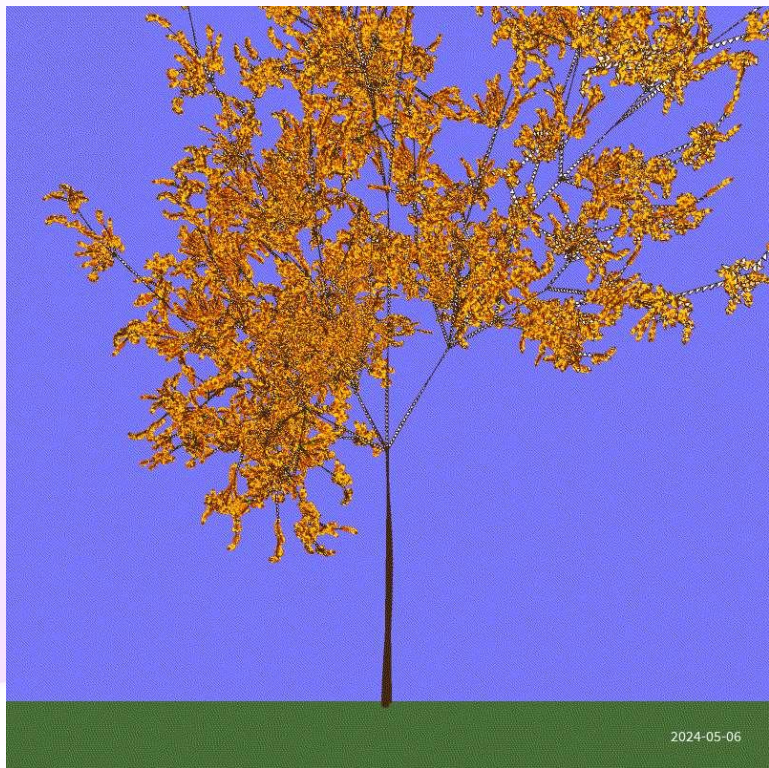
Art with py5



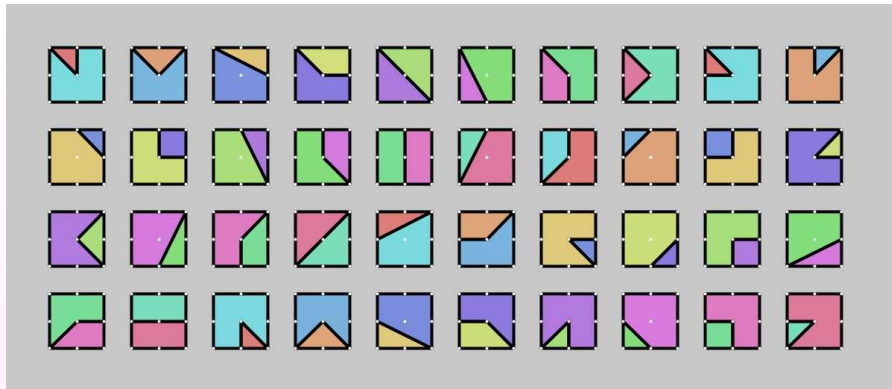
by Jim Schmitz

PyCon US • 24

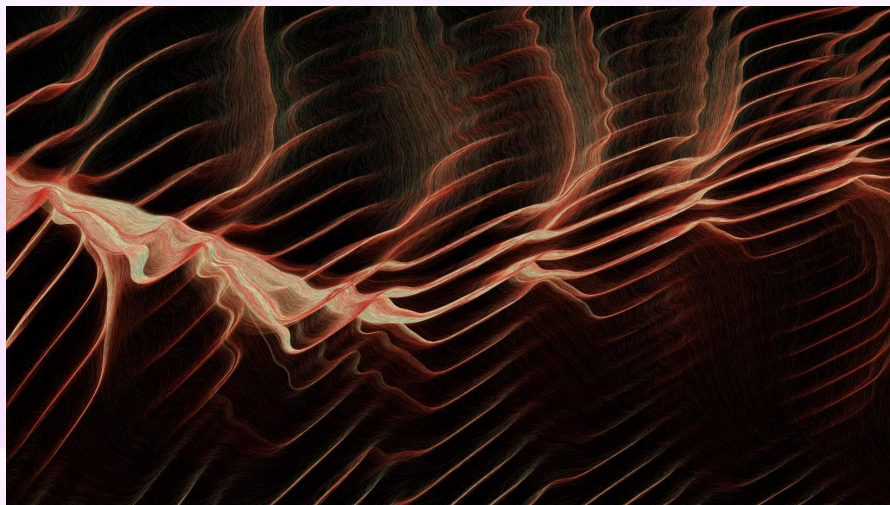
Art with py5



Érico Andrei - @ericof@pynews.com.br



Alexandre Villares - @villares@pynews.com.br



Tom Larrow - @TomLarrow@vis.social

PyCon US '24

Future py5 Development

- Grow py5 Community
- Expand Educational Resources
- Web version with PyScript

Stay in Touch

	py5	me
website	py5coding.org	ixora.io
mastodon	@py5coding@fosstodon.org	@hx2A@mastodon.art
github	github.com/py5coding	github.com/hx2A
instagram		@jim_hx2A



GitHub Issues & Discussion: <https://github.com/py5coding/py5generator>

Slides and Example Code: <https://github.com/hx2A/pycon2024>