Control our Christmas Tree!

Via Python!

2025-12-08

CircuitRee!

Contents

1 The code stuff

LED protocol

LED State: 4-tuple of integers

```
(R, G, B, L)
```

- R, G, B: 0-255 (color)
- L: 0-100 (brightness)

LED Array: List of states

```
[(255, 0, 0, 100), (0, 255, 0, 50), ...]
```

Array length must match LED count!

We have 100 LEDs

Python Subset

Allowed Standard Library

- `math`, `random`

Blocked

- `os`, `sys`, `subprocess`, `ctypes`
- All external modules

Extra Functions:

- `getLEDCount()` - Returns the number of LEDs (100)
- `setLEDs(states)` - Update all LEDs with the given states
- `sleep(seconds)` - Pause execution for the specified duration

Example Code

Python Subset (ii)

```
led_count = getLEDCount()
states = [[0, 0, 255, 100] for _ in range(led_count)]
setLEDs(states)
```

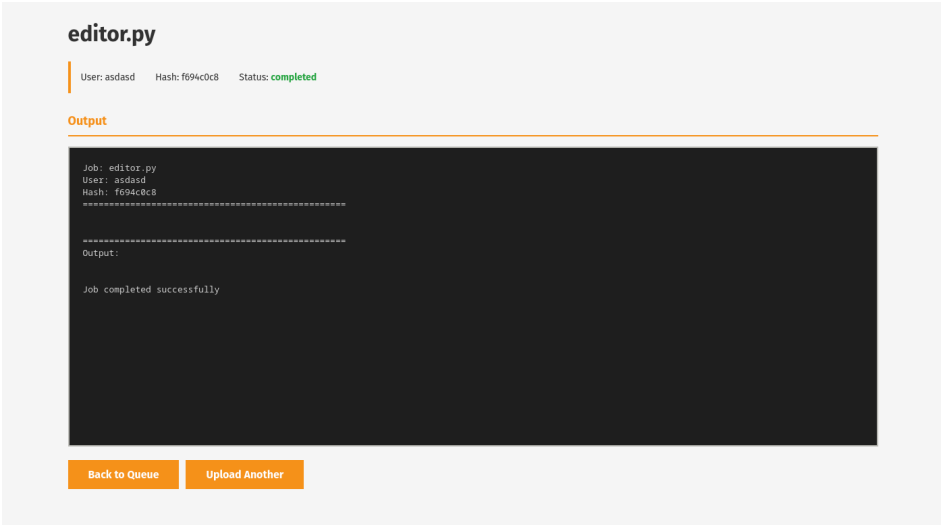
2 The Infrastructure

Everything happens here:

Homepage


Separately write and upload
Welcome to Chippy Tree!
Upload your Python code to control the LED tree.
Queue
Upload Code
Submit your Python script
Open Web Editor
Code in your browser
View Queue
Check upload status
VSCode-esque editor

Submission screen



Disclaimer

Issues are **certainly** going to arise... but do try to figure out as much as you can on your own – help us help you.

3 Questions?

Let's light up this tree!