A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light greenish-blue. They are positioned diagonally, with the blue one partially covering the green one.

Creative Coding: Expressive Abuse of APIs



WHOAMI

Tom Valadez {tvldz, thomble, ÆË##BÜD}

Agenda:

- What is “Creative Coding” ?
- Three personal projects using libraries and APIs in weird, *expressive* ways.



What is “Creative Coding” ?

Creative coding is a type of [computer programming](#) in which the goal is to create something expressive instead of something functional. It is used to create live visuals and for [VJing](#), as well as [creating visual art and design](#), [entertainment](#), [art installations](#), [projections](#) and [projection mapping](#).

- All Coding is Creative
- “Sketching” languages for visual, musical and language output.
- Is this “Hacking” or “Hacking Adjacent”?
- Steven Levy’s book, “Hackers” (PRNGs, Spacewar, etc.)

Why I like Creative Coding

- Expressive!
- Great languages for prototyping and “sketching.”
- Code reuse
- BLACK BOXES THAT ARE SMARTER THAN ME
- **HAPPY LITTLE ACCIDENTS**



Origins: “Haikubot”

pinkbunnybitch 12 points · 2 years ago

It's a little weird. I think "kids these days" are more needy in general.

haikubot-1911 59 points · 2 years ago 🏆

It's a little weird.

I think "kids these days" are more

Needy in general.

- pinkbunnybitch

haiku_robot syllables

[expand all](#) [collapse all](#)

[~] to **haiku_robot** sent 7 years ago

Can you share your list of words and syllables, or let me know how the algorithm works that determines this information?

[permalink](#)


[~] from **haiku_robot** sent 7 years ago

cmudict

[permalink](#) [delete](#) [report](#) [block user](#) [mark unread](#) [reply](#)

17 Syllable Tweets, or “haiku”

```
root@derp:~/nlTK# python test2.py
so in with with its if for are your but do can up your your not and
Why is Rachel McAdams in so many time traveling movies?
Can I move to manhattan and start over but bring all my close friends
I found no rose petals on my bed... I'm thoroughly disappointed
juvenile, juvenile You and your callous words are so juvenile
This is the main reason why I end up in situations like this...
Plus gotta work Saturday and Sunday only off day is Friday!
you can be my lady friend, I can be yo bae , yo man for one night.
Getting colder in here, if that is possible. Can't feel my fingers.
half scared to death, can't catch my breath, aren't these the moments we live for?
Witches can fly and they dress pretty rad soo can I just be a witch?
i could care less about the world series. both teams eat shit for breakfast.
I'm so ready for volleyball to be over. hurry up Tuesday.
ok that made my night like no one has ever said that about me..
Tomorrow I really need to think about what I need in my life.
We grow because we struggle, we learn and overcome. -R. C. Allen
My big and my boyfriend are easily my two favorite people.
It's crazy when people allow their demons to get the best of them
I need Friday to come so I can reconnect my phone already :\
& when I get the chance to leave you always tell me that you need me ...
Seriously all Matthew does is laugh at me. It's ridiculous.
This medicine is the only way ill be able to fall asleep.
I wish relationships among people worked like they do in the sims
Going last minute Halloween shopping tomorrow for a party.
People keep asking me why I sweat so much.. HOW THE FUCK SHOULD I KNOW!
```

APIs: Twitter / Instagram / CMU Pronouncing Dictionary

Twitter: Sample tweets in real time

cmudict: Find 17 syllable tweets

Instagram: Use a “tag” search to find complimentary photos

Pair them and present them to the viewer.

“Artificial Context”

Shitty aside: Instagram restricted their API, killing this project.

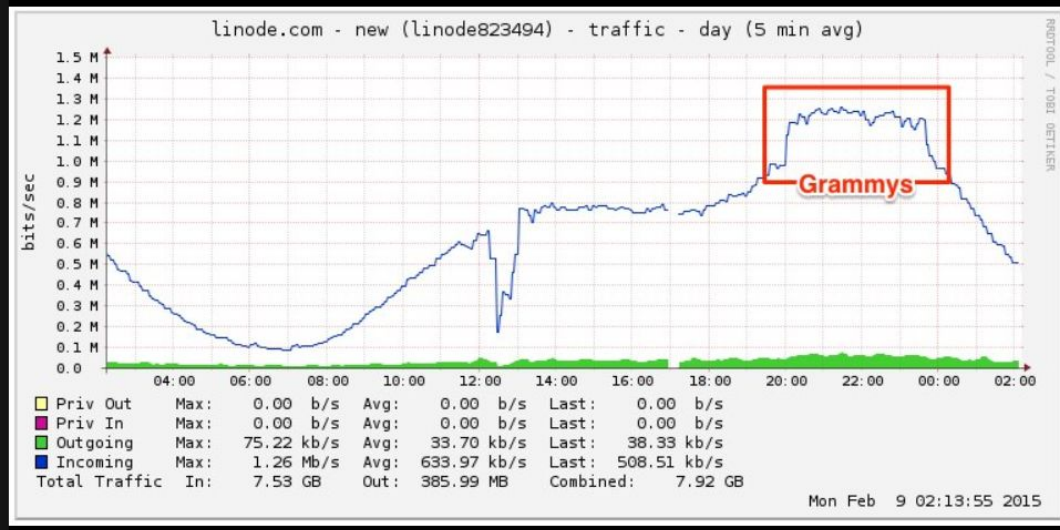
Challenges

Copyrights

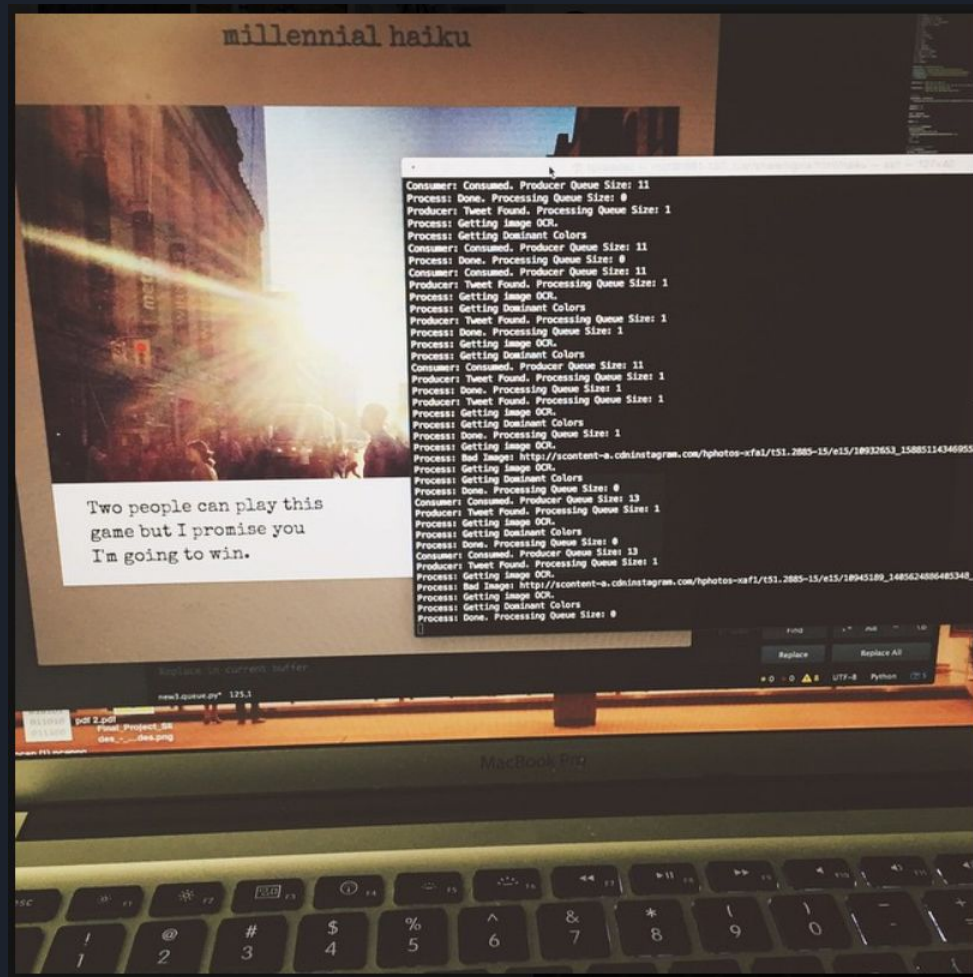
Questionable Content

Bandwidth

“Slow” Periods



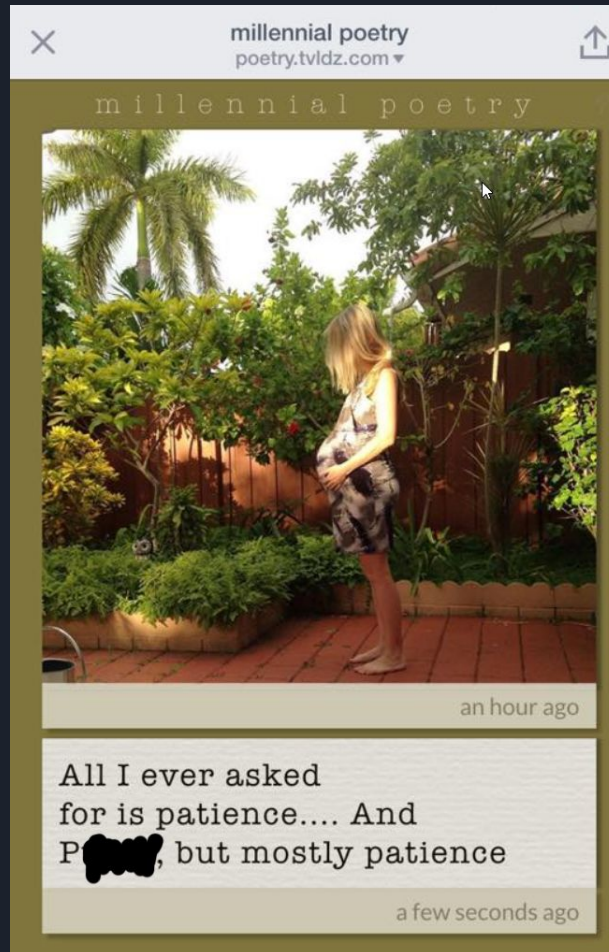
“Haiku”



“Haiku”



“Haiku”





API: spotify / annoy

Annoy (Approximate Nearest Neighbors Oh Yeah)


We use it at [Spotify](#) for music recommendations.



Search or jump to...

 [spotify](#) / [annoy](#)

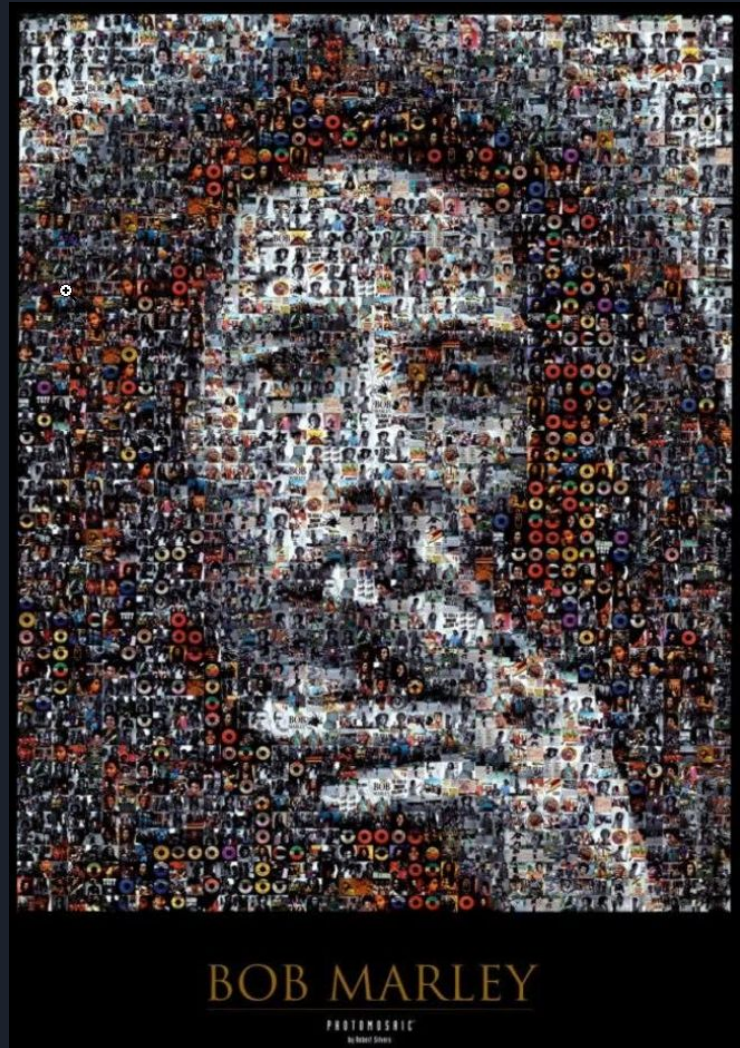
- Implementation of Nearest Neighbor Search (C with Python bindings)
- NNS is used in Recommender Systems
- Find people with similar tastes in music, then diff their playlists to make recommendations
- What else can I do with this?



Photomosaic Posters

Anyone remember these?

...I think I can do better.





How it Works:

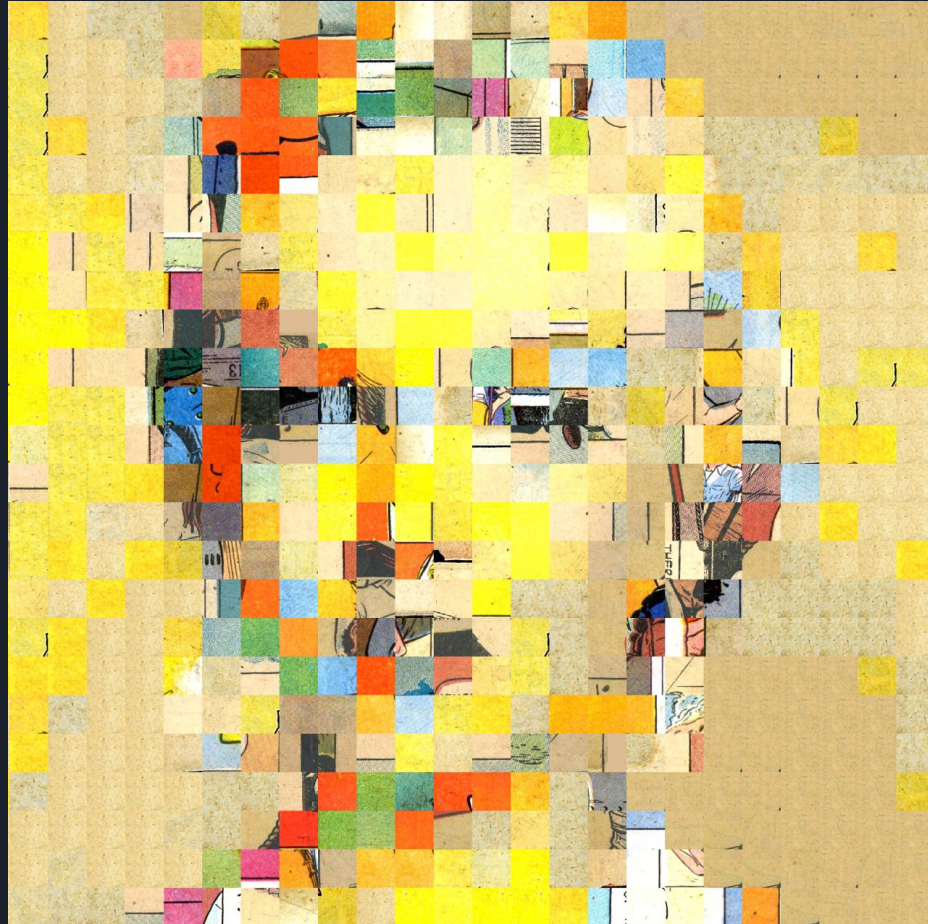
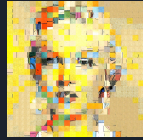
1. Gather a bunch of images that you want as a “medium”.
2. Cut them into N by N pieces
3. Shrink the resulting image to 10x10
4. Store the RGB data within an “annoy” object, referencing the location of the original image.
5. Then, feed the algorithm a new image and ask that it recreate it with what it has stored in the annoy object.
6. ***HAPPY LITTLE ACCIDENT: MAKE THE ALGORITHM COLORBLIND TO SAVE SPACE AND TIME LOL***

Primitive Example:

Comic book pages + Frida Kahlo



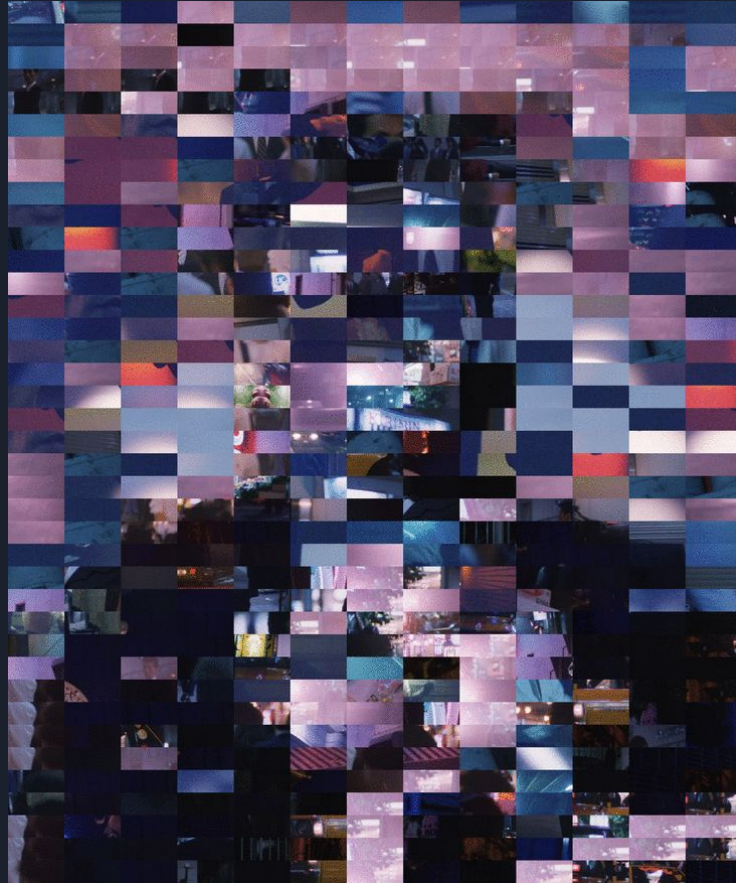
Comic Book + Marilyn Monroe



Apollo Program Survey Moon Images + Marilyn Monroe



A Short Film + Portrait





GPL'd Code:

<https://github.com/tvldz/annabel>



TensorFlow

API: TensorFlow / Keras

- Machine Learning is typically used to make *predictions*.
- But, it can also be used to *generate* content.
- See:
 - StyleGAN: <https://github.com/NVLabs/stylegan2>
 - GPT: <https://openai.com/blog/better-language-models/>

“The Unreasonable Effectiveness of Recurrent Neural Networks”

<http://karpathy.github.io/2015/05/21/rnn-effectiveness/>



“The Unreasonable Effectiveness of Recurrent Neural Networks” - Andrej Karpathy

- Really great read that got me interested in ML.
- Character-based processing
- Can generate compilable C code, Wiki markup, and Shakespeare-like dialogue
- MOSTLY SENSELESS AND WEIRD
- Open Source Code
- COOL!



What I did with Andrej's code

- Modified it to evaluate **WORDS** instead of **CHARACTERS** (I think it will develop a working model faster this way)
- Consider spaces, tabs and punctuation as “words.”
- Let's feed it a bunch of poetry
- Let's feed it some HP Lovecraft
- Let's tune the “randomness”
- **WRITE ME SOME POEMS**



“Poems”

in the pain , and loved .

his sleepless of push
out , have i shall each and heaven .

and remember the great sea ,
and give .
and a sorry
at all wells

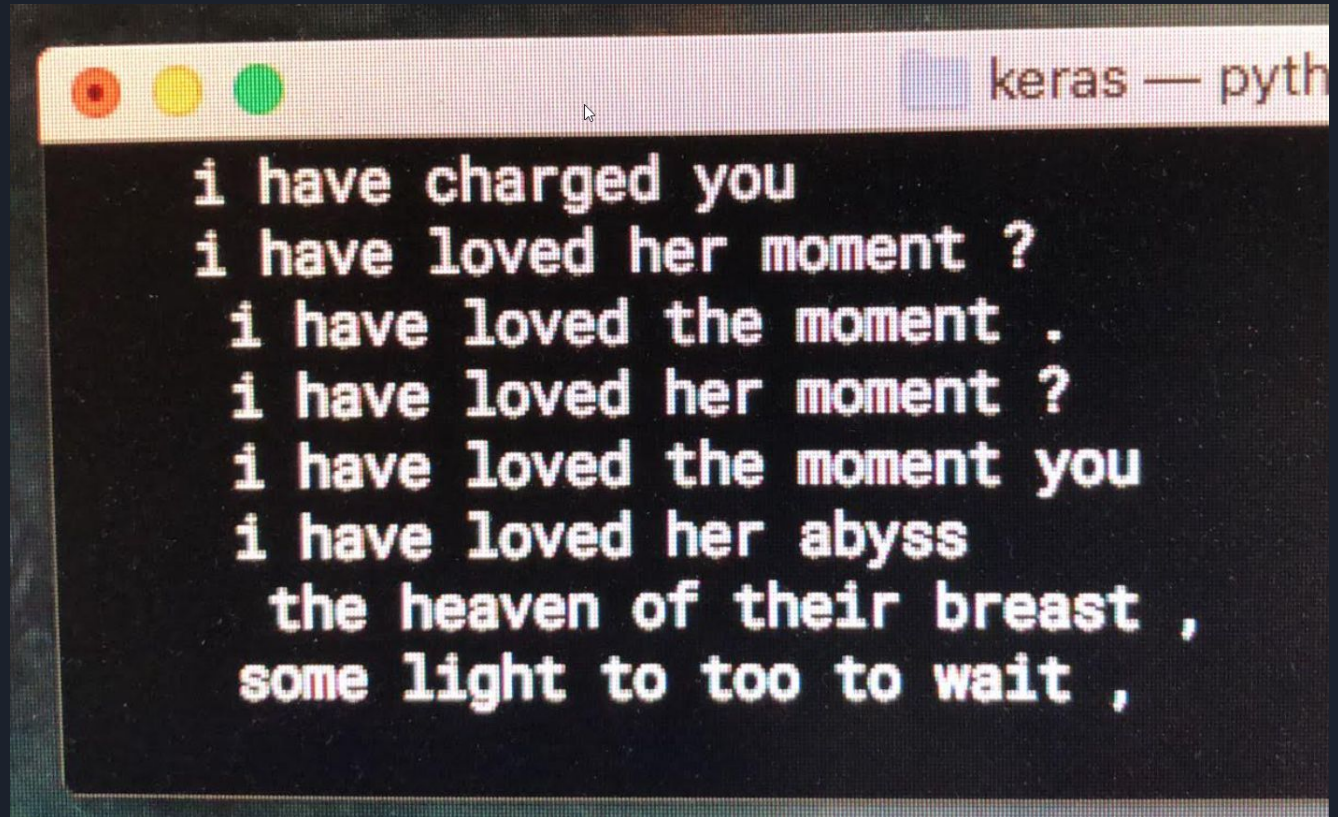
and consoled ,
till soon than +
so daisy the magic ;
and i do hear saying i through the wreck , let to trash

of us , prepare god was there ,

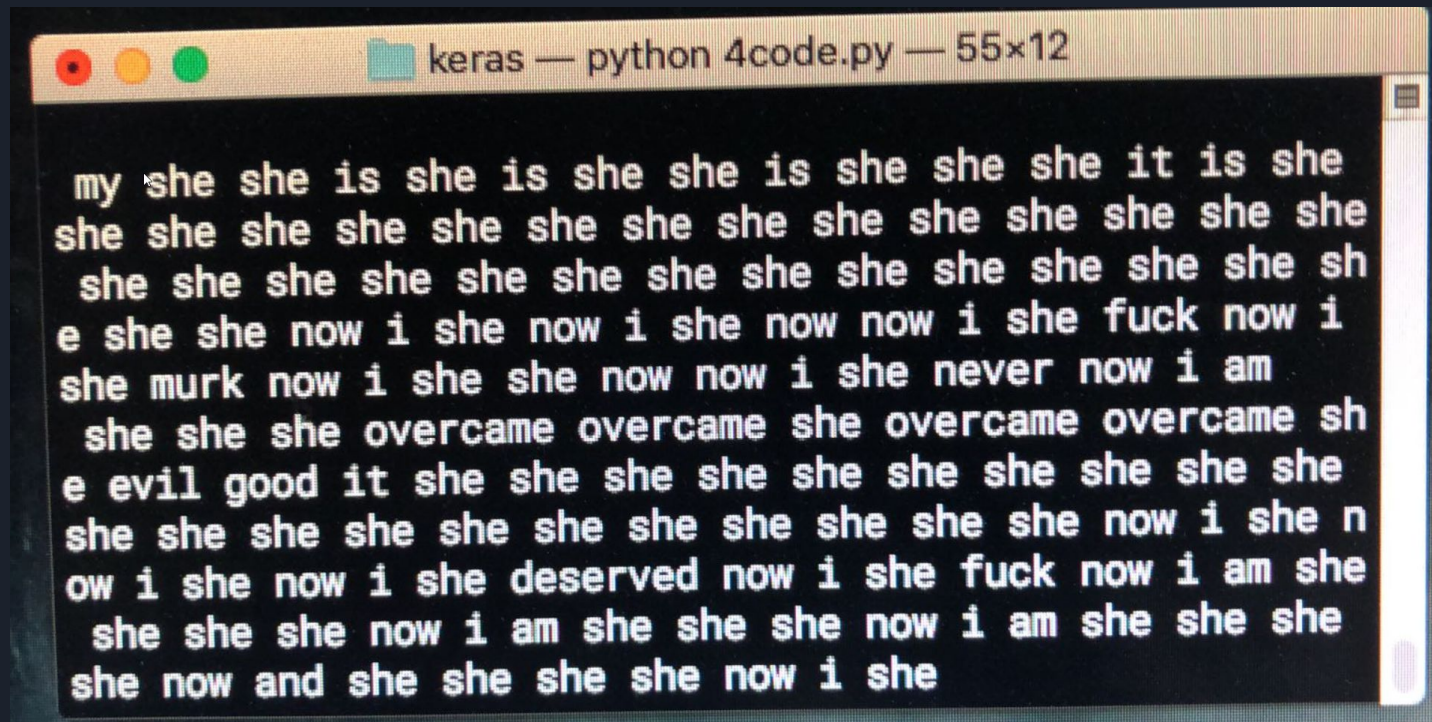
and are them and with their ' on living , , in nothing ,
that smashed its insides living . .

holes ,
the loved . for sweeter . .

“Poems”



“Poems”



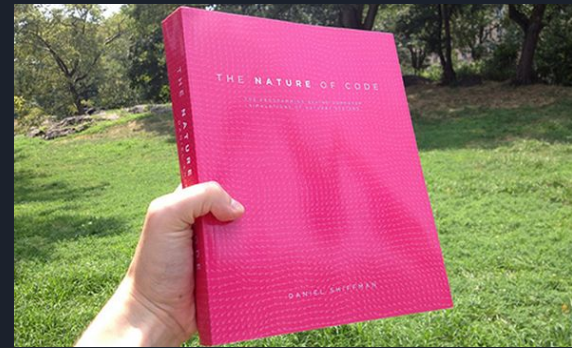
Resources

Processing: <https://processing.org/>

The Nature of Code: <https://natureofcode.com/>

10 PRINT CHR\$(205.5+RND(1)); : GOTO 10: <https://10print.org/>

<https://www.reddit.com/r/creativecoding/>



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Questions?
Thanks!