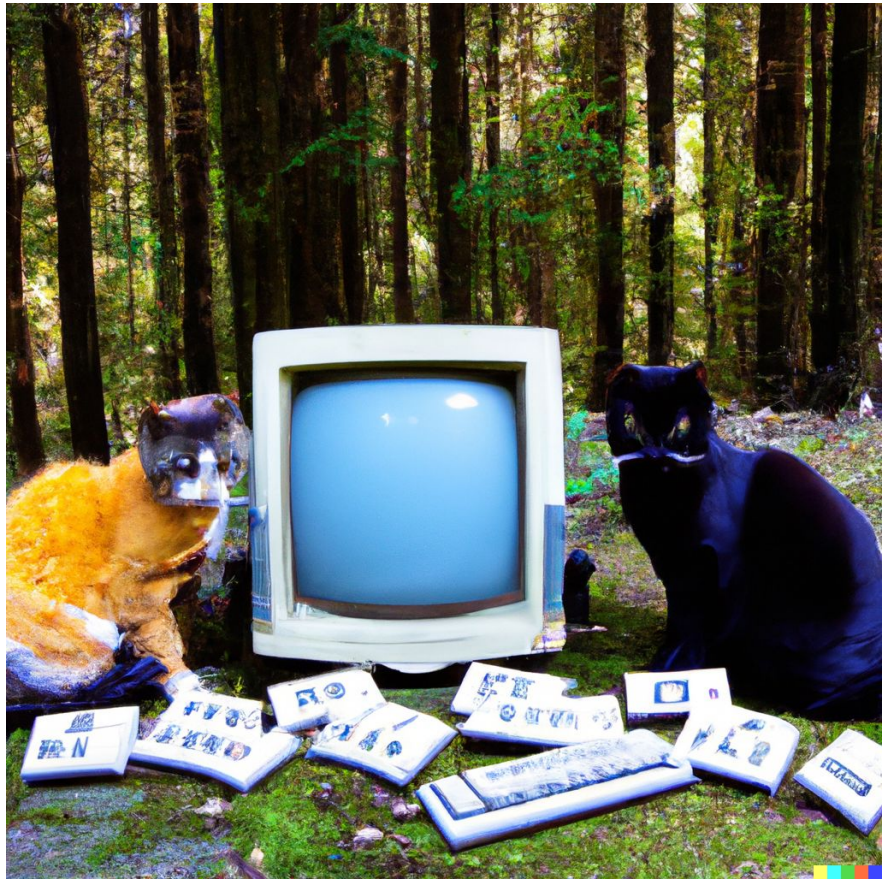
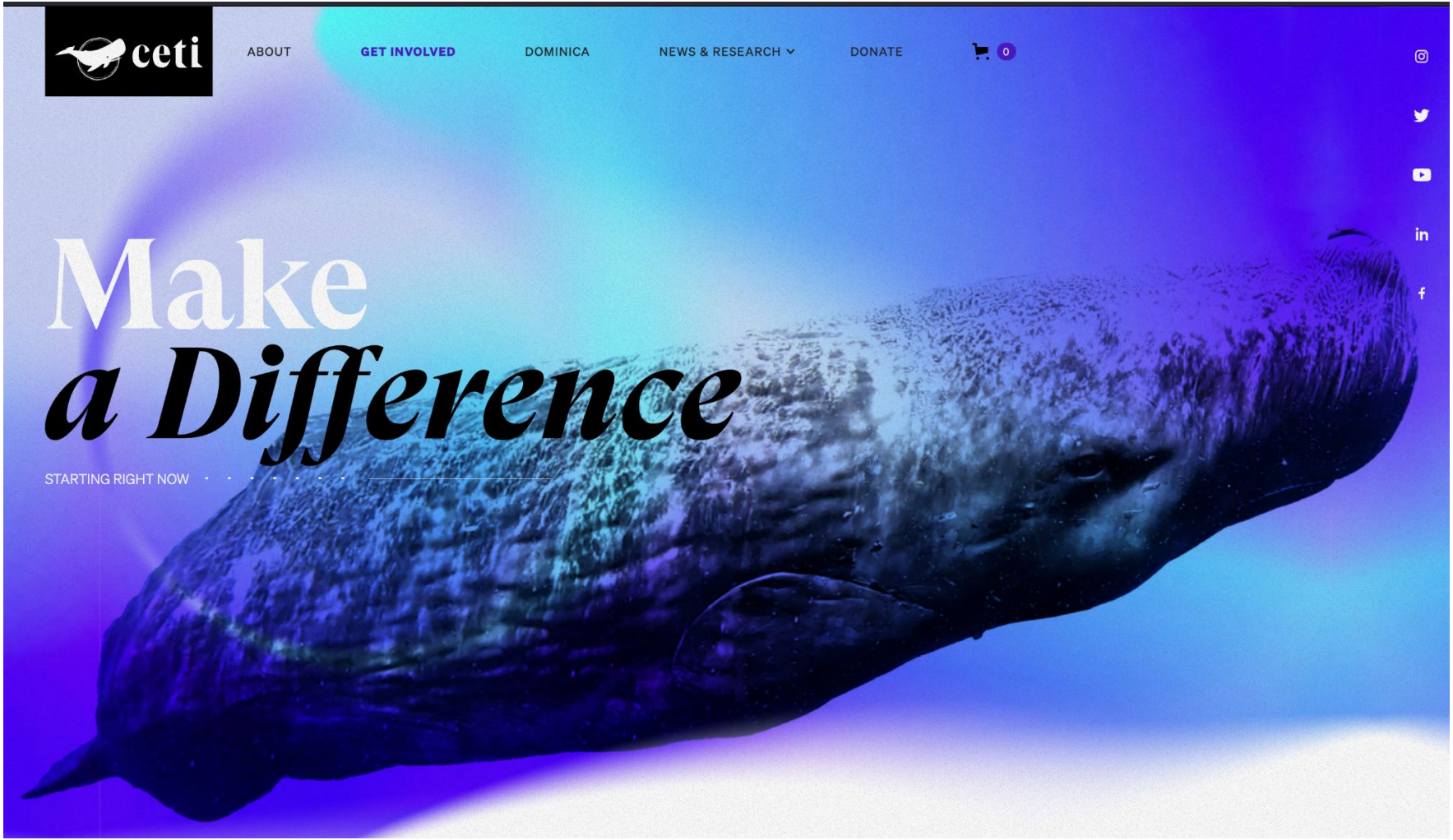
CS 103000
Prof. Madeline Blount

Week 5:
LOOPS (part 2)
🪺 NESTED LOOPS

Attendance:
https://proton-cs103.glitch.me/



Dall-E 2: cats learning C++ in the forest on '90's technology


ceti
ABOUT
GET INVOLVED
DOMINICA
NEWS & RESEARCH
DONATE
0
Make
a Difference
STARTING RIGHT NOW

ANNALS OF NATURE

CAN WE TALK TO WHALES?

Researchers believe that artificial intelligence may allow us to speak to other species.

By Elizabeth Kolbert

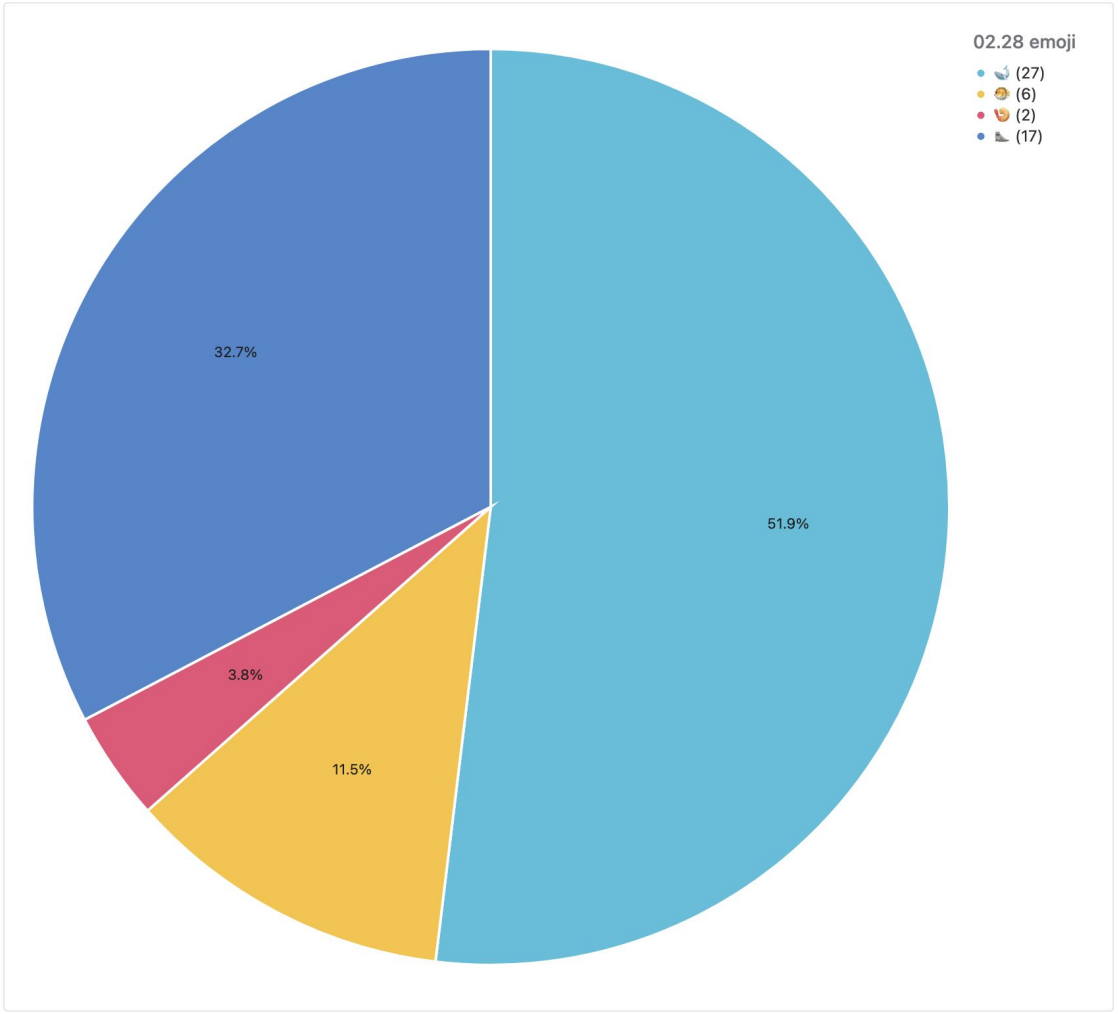
Scientists involved:

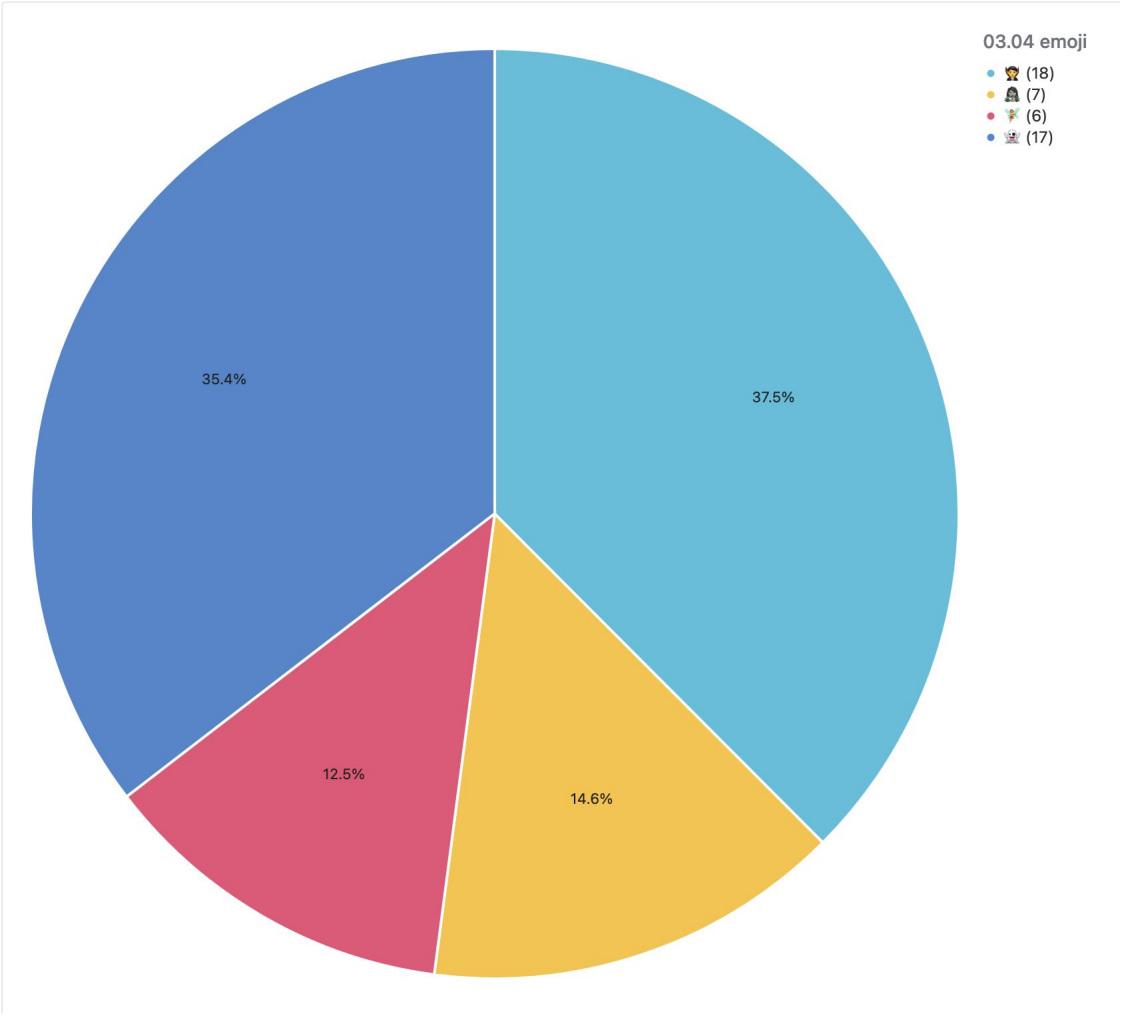
- CUNY (Gruber, biologist)
- MIT
- Oxford
- Harvard

Github link, C++

"I think it's something that people get really excited about: Can we go from science fiction to science?" Rus told me. "I mean, can we talk to whales?"

New Yorker, Sept. 4, 2023 (link)

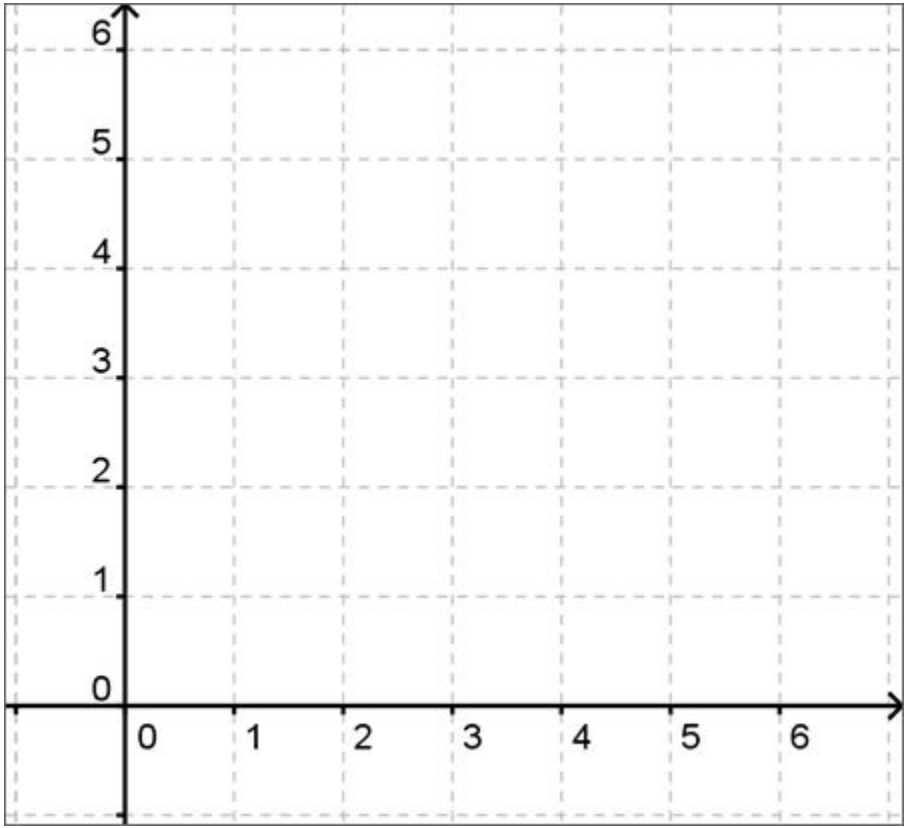

02.28 emoji
(27)
(6)
(2)
(17)
51.9%
11.5%
3.8%
32.7%


03.04 emoji
(18)
(7)
(6)
(17)
37.5%
14.6%
12.5%
35.4%

for loops!

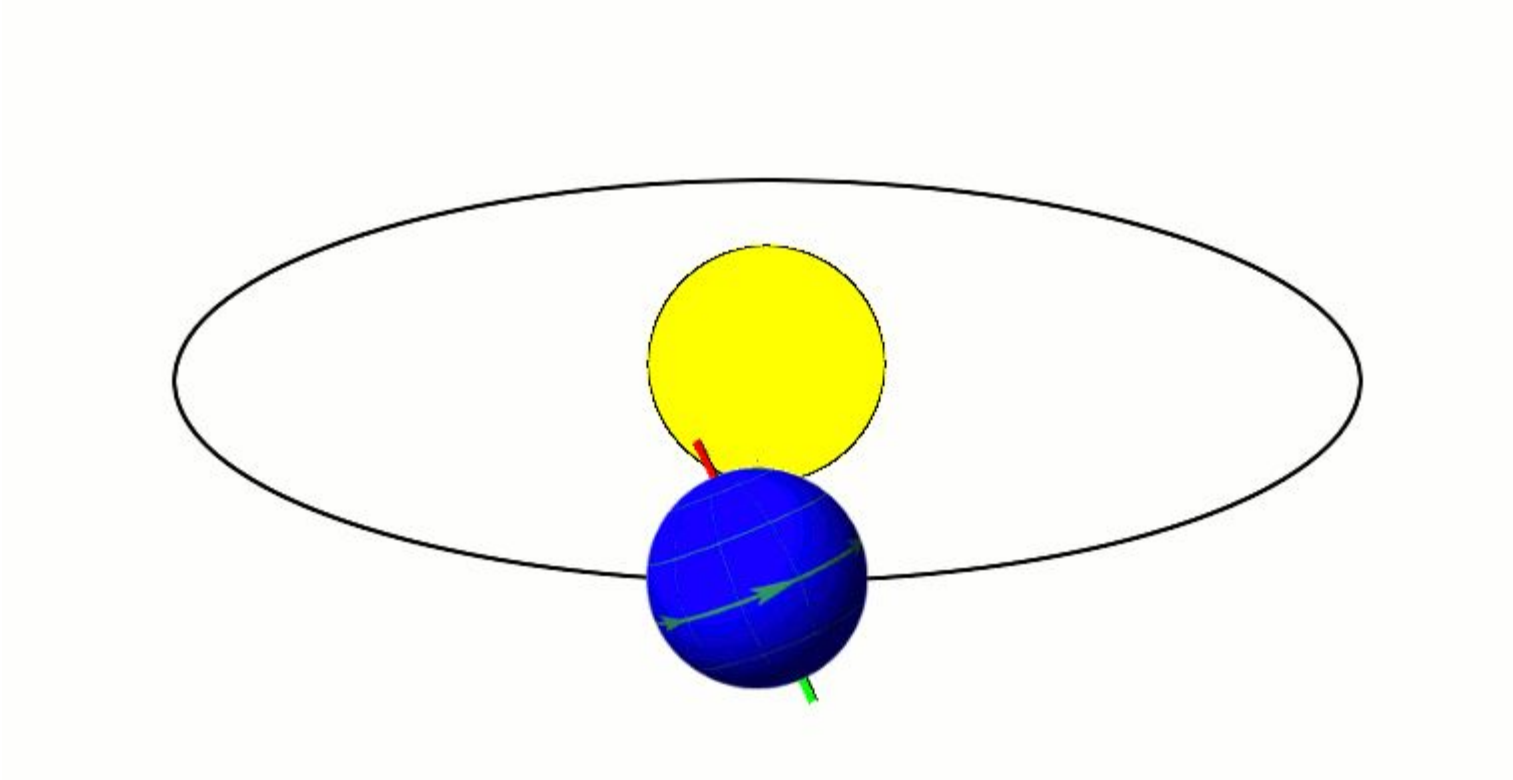
```
int i;
for (i = 0; i < max; i++) {
  // loop in here
}
```

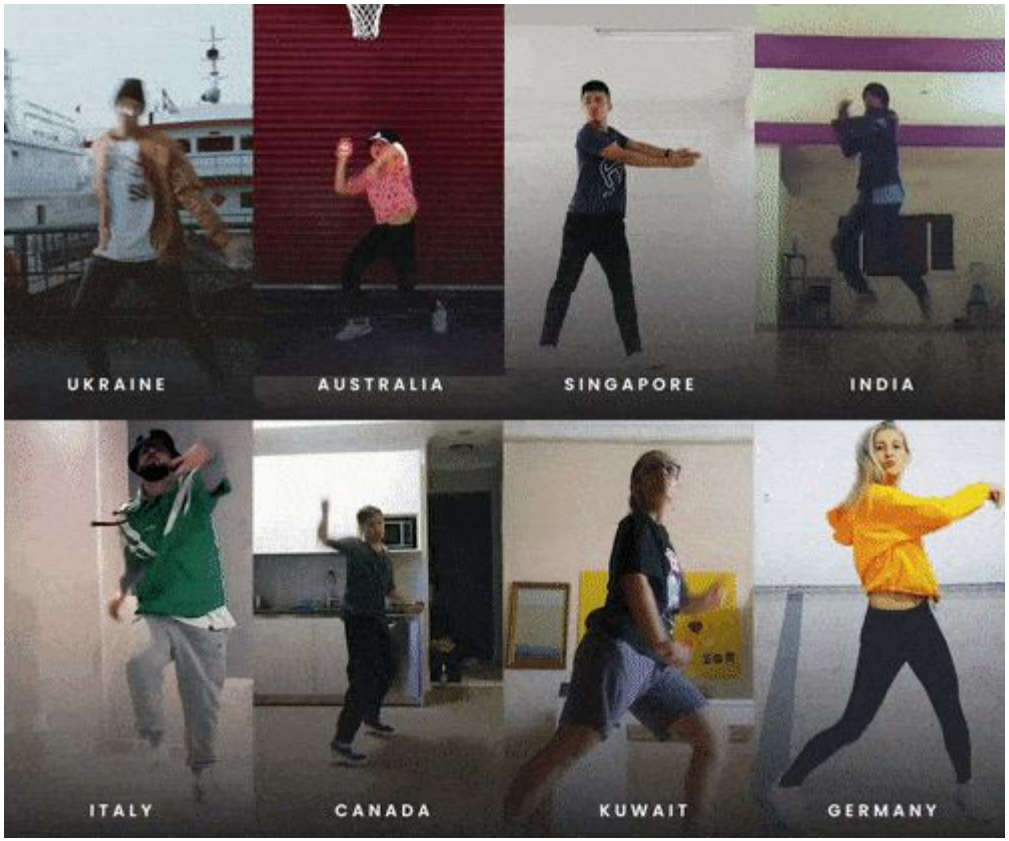
Nested for loops:
MULTI-DIMENSIONAL

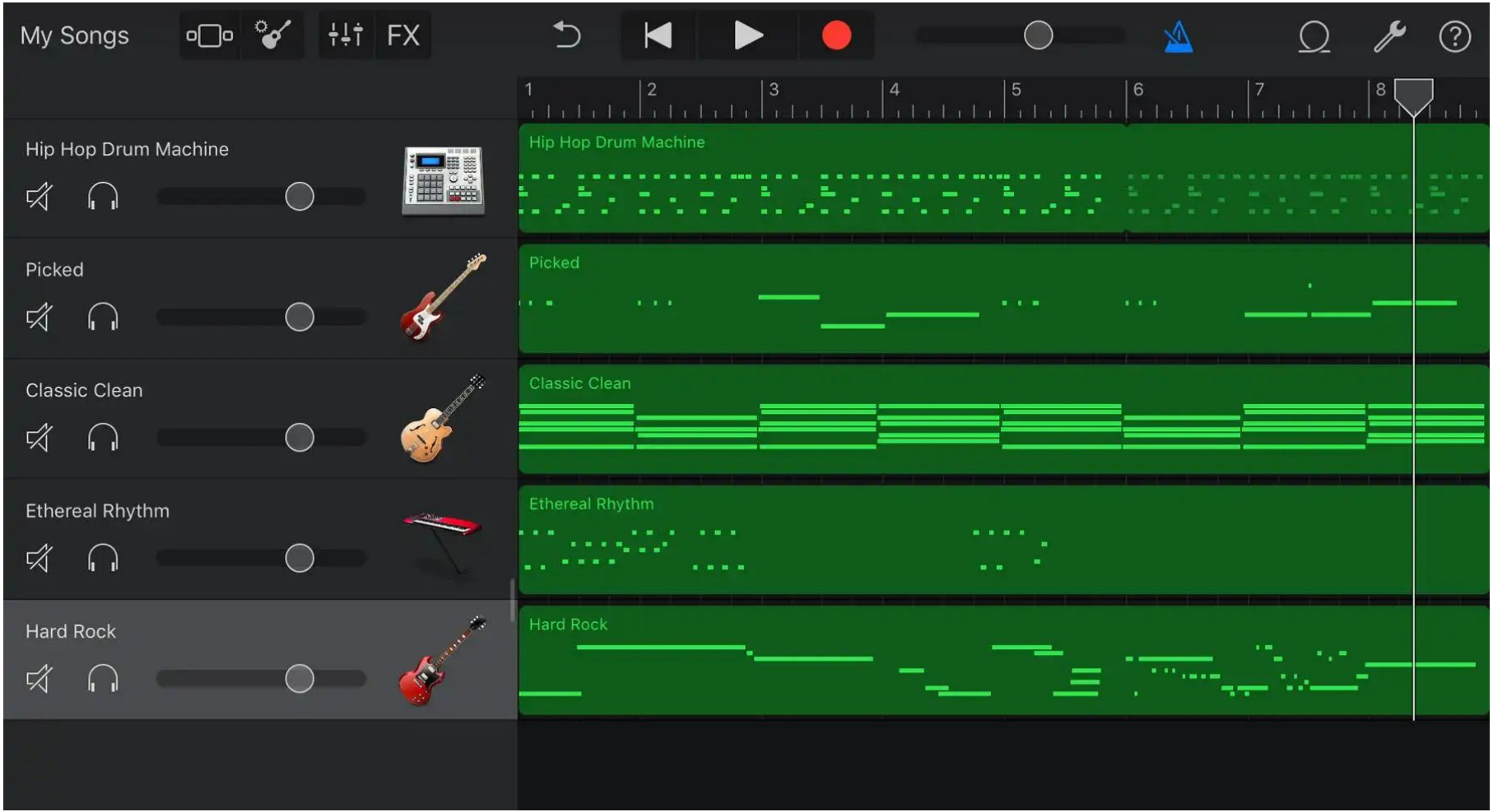


12
1
2
3
4
5
6
7
8
9
10
11

https://cs103-proton.glitch.me/




UKRAINE
AUSTRALIA
SINGAPORE
INDIA
ITALY
CANADA
KUWAIT
GERMANY


My Songs
FX
1
2
3
4
5
6
7
8
Hip Hop Drum Machine
Picked
Classic Clean
Ethereal Rhythm
Hard Rock

Special Pythagorean triplet

Problem 9

A Pythagorean triplet is a set of three natural numbers, $a < b < c$, for which,

$$a^2 + b^2 = c^2$$

For example, $3^2 + 4^2 = 9 + 16 = 25 = 5^2$.

There exists exactly one Pythagorean triplet for which $a + b + c = 1000$.
Find the product abc.

```
euler #9 answer: 31875000
```

Smallest Multiple

Problem 5

2520 is the smallest number that can be divided by each of the numbers from 1 to 10 without any remainder.

What is the smallest positive number that is **evenly divisible** by all of the numbers from 1 to 20?

Problem 6: answer 232792560

“brute force”

using loops + computation power