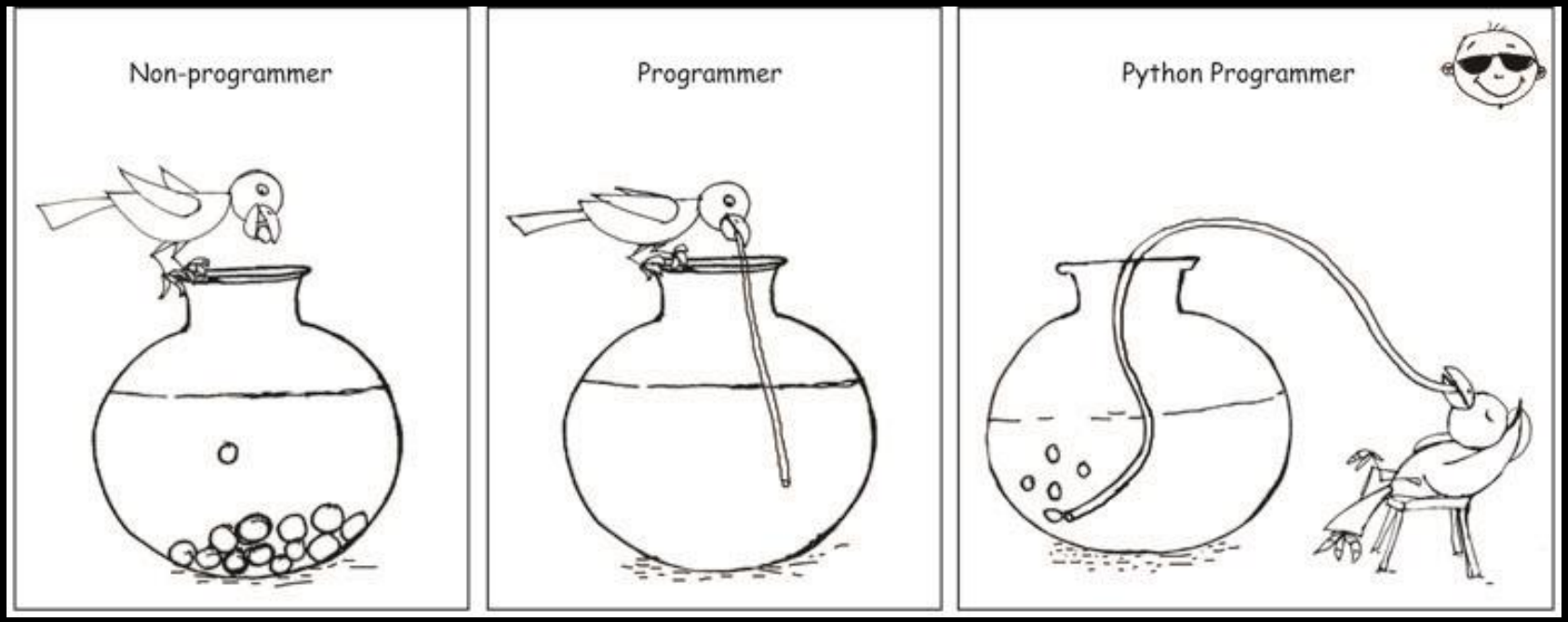

http://lpycot.appspot.com/

Introduction to Python

Wanqian Yang

Harvard College '20

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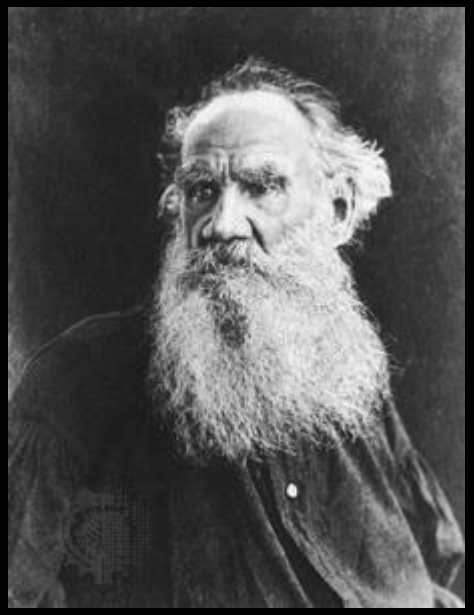
Another programming language?



Programming languages

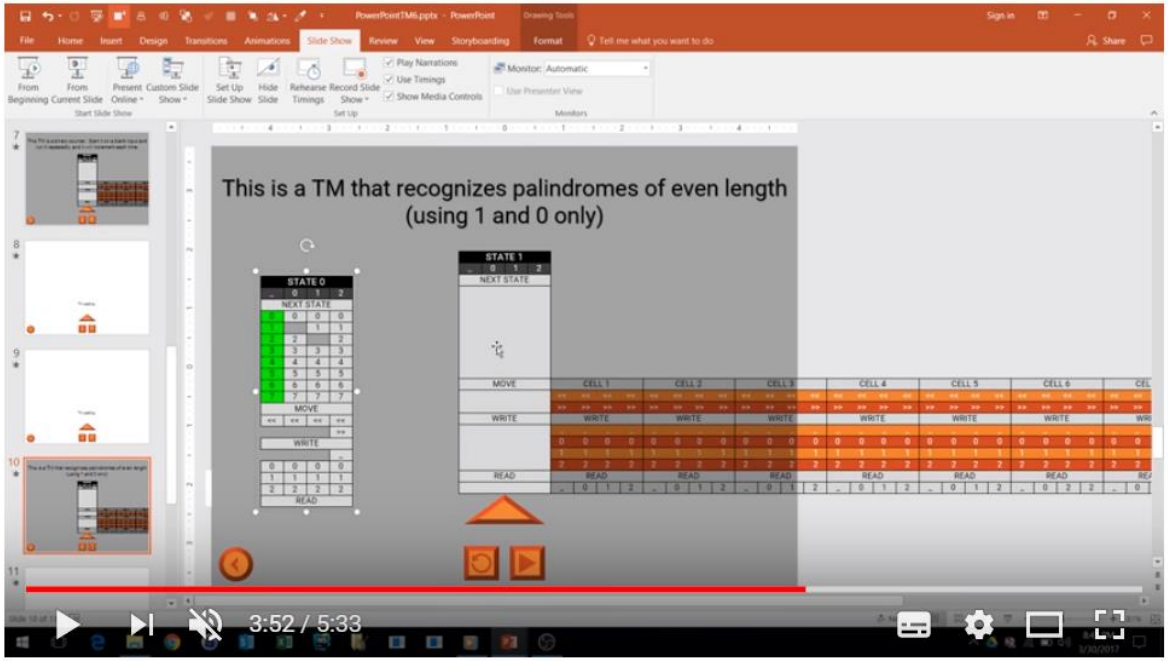
~~Happy families~~ are all alike;

programming language

every ~~unhappy family~~ is

~~unhappy~~ in its own way.

unique



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Tom Wildenhain
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Video highlighting my research on PowerPoint Turing Machines for CMU's SIGBOVIK 2017

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What is Python?

Programming Language

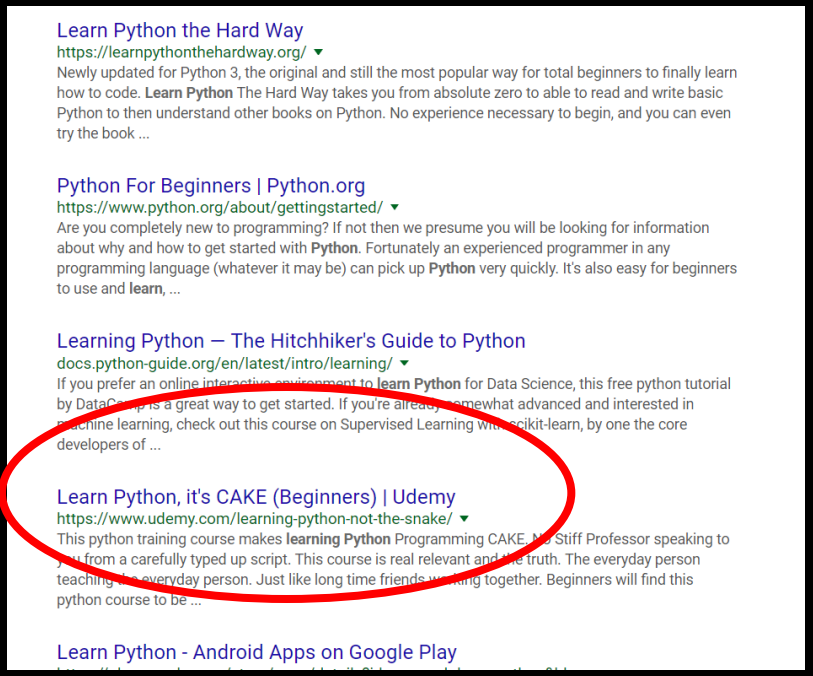
- High-Level
- Dynamically-typed
- Supports many programming paradigms

Why bother learning Python?

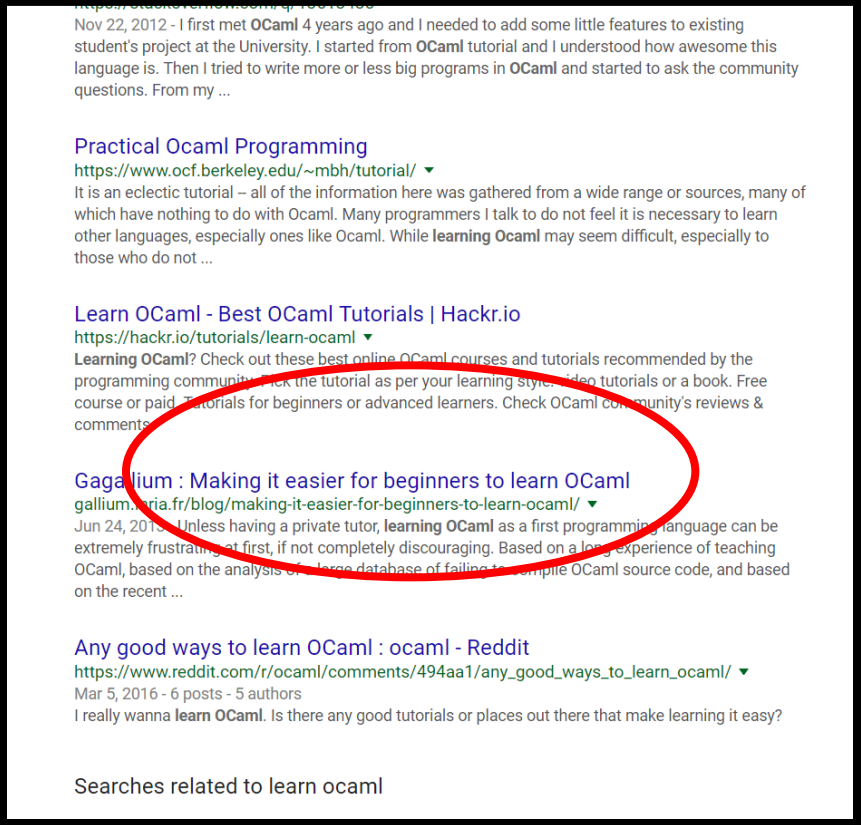
```c
#include <stdio.h>
#include <cs50.h>

int main(void)
{
    int h = 24;
    while (h < 0 || h > 23)
    {
    printf("Height: ");
    h = get_int();
    }
    for (int i = h; i > 0; i--)
    {
        for (int j = 0; j <= h; j++)
        {
            if (j >= i - 1)
                printf("#");
            else
                printf(" ");
        }
        printf("\n");
    }
}

```

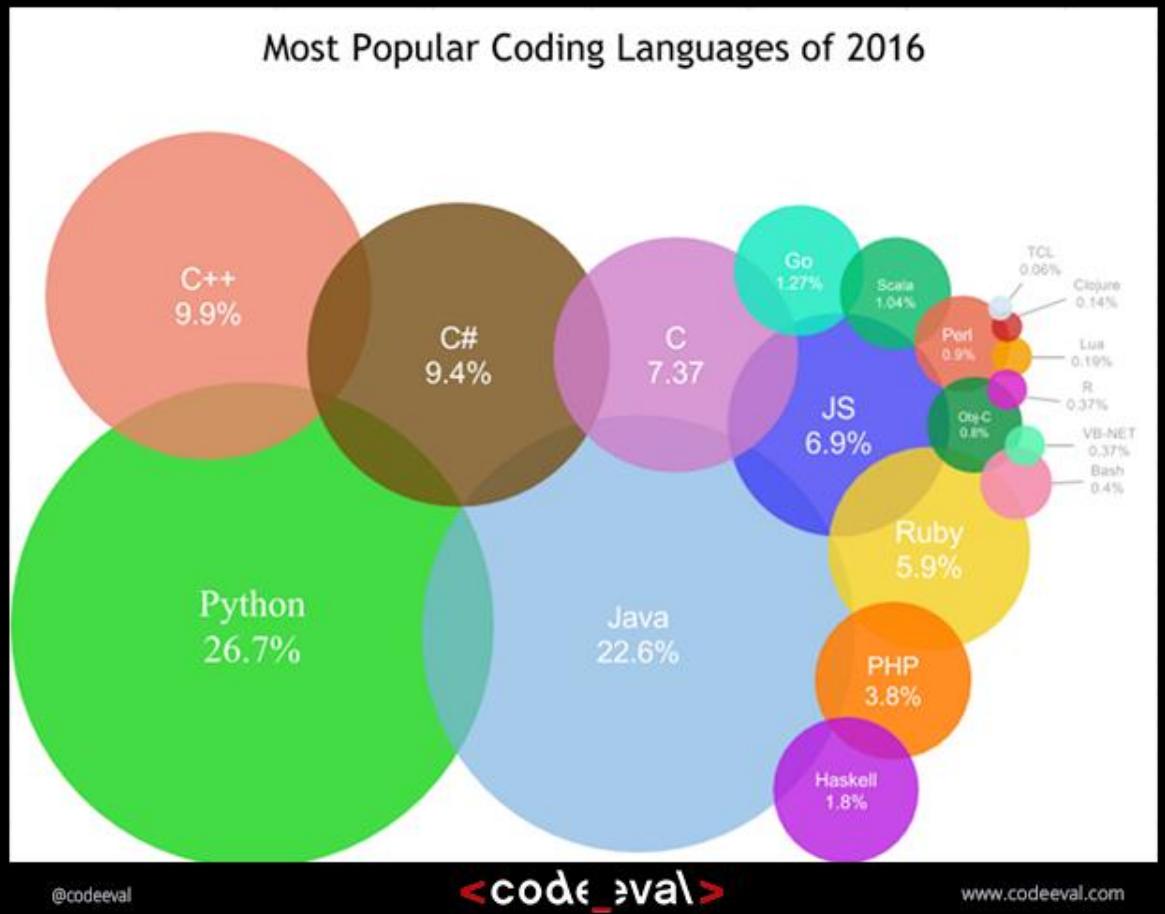
```python
import cs50

h = 24
while h < 0 or h > 23:
    print("Height: ", end="")
    h = cs50.get_int()
for i in range(h, 0, -1):
    for j in range(h + 1):
        if j >= i - 1:
            print("#", end="")
        else:
            print(" ", end="")
    print("")

```

Easy to read and write



Easy to learn





Widely-used →
Extensive support

Data science

Science

Statistics

Finance

Python

Web programming

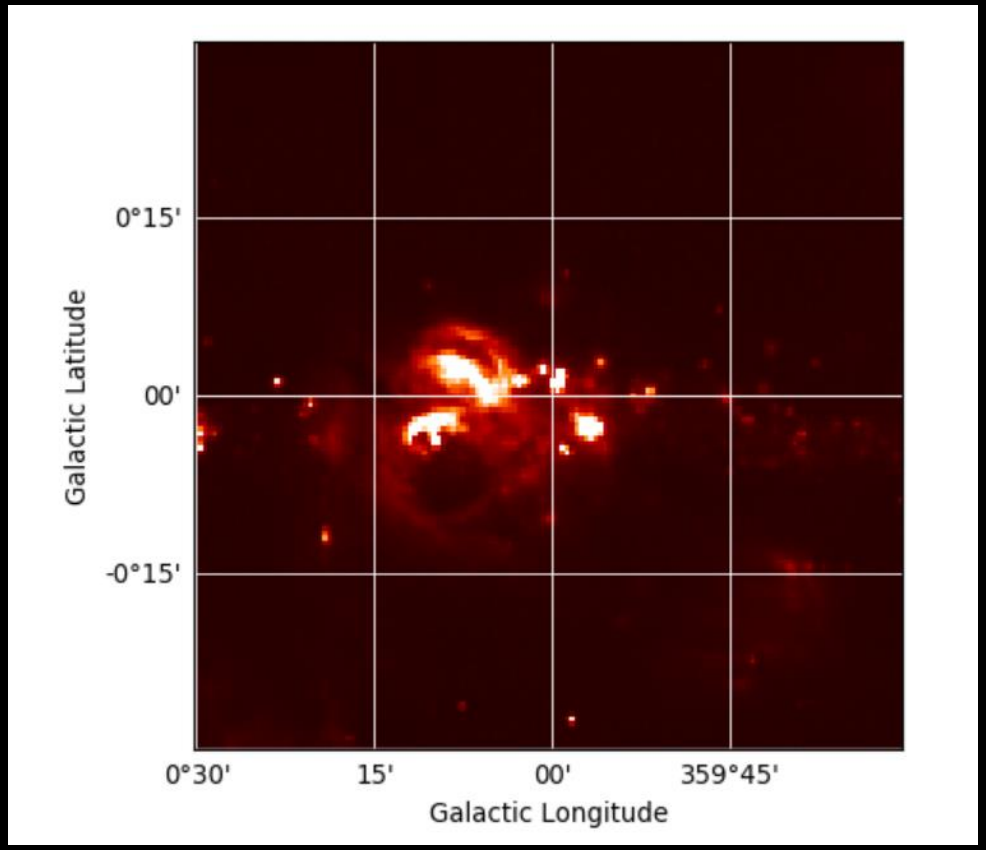
GIS

General software

Used in many fields

Some Examples

BeautifulSoup



astropy
A Community Python Library for Astronomy

TensorFlow

Now for some actual Python...