

Learning to Speak in Python

June 5, 2021

THE DATA SCIENCE PROCESS



Data Engineers

Data Analysts

Machine Learning Engineers

Data Scientists

Web-scraping

Computer's are written in binary (01010010), which is base TWO, since there are two digits: 1 and 0.



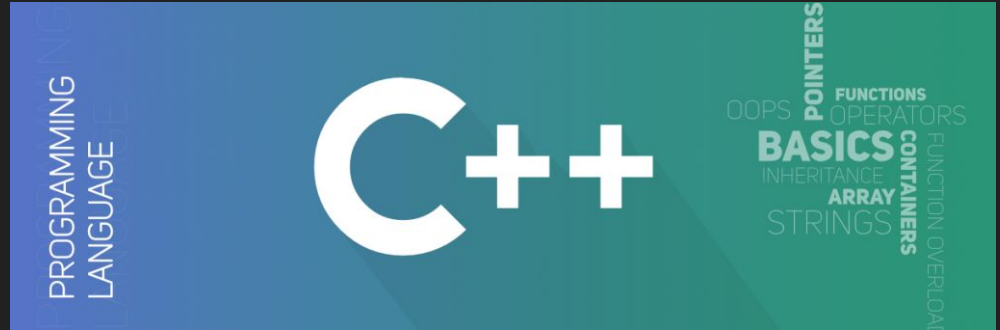
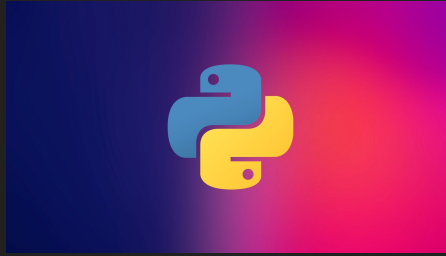
CPU (Central Processing Unit)



RAM (Random Access Memory)

Programming languages can be high-level and low-level.

High-levels just mean more levels of “abstraction”



Your First Words

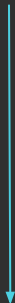
Learning what to call stuff

Data Structures & Algorithms

Your First Words

Learning what to call stuff

Data Structures & Algorithms



[1, 2, 3, 4, 5]

{ 'key' : 'value' }

“Hello!”

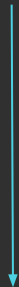
{1, 2, 3}

(1, 2)

Your First Words

Learning what to call stuff

Data Structures & Algorithms



<code>[1, 2, 3, 4, 5]</code>	<code>list (array)</code>
<code>{ 'key' : 'value' }</code>	<code>dictionary (JSON)</code>
<code>"Hello!"</code>	<code>string</code>
<code>{1, 2, 3}</code>	<code>set</code>
<code>(1, 2)</code>	<code>tuple</code>

Pause

Difference btwn list & tuple?

Data Structures & Algorithms



[1, 2, 3, 4, 5]

list (array)

(1, 2)

tuple

Pause

Difference btwn list & tuple?

Data Structures & Algorithms



[1, 2, 3, 4, 5]

list (array)

MUTABLE

(1, 2)

tuple


IMMUTABLE

Your First Sentences

Learning to put things together

Data Structures & Algorithms

for “LOOP”
iteration



[1, 2, 3, 4, 5]

for i, \dots, N ,
do something

1
2
3
4
5

Your First Sentences

Learning to put things together

Data Structures & Algorithms

for “LOOP”
iteration

[1, 2, 3, 4, 5]

1
2
3
4
5

for i in array:

print(i)


The “print” function

Your First Sentences

Learning to put things together

Data Structures & Algorithms

for “LOOP”
iteration



[1, 2, 3, 4, 5]

1
2
3
4
5

```
for i in array:  
    print(i)
```

Python, “pythonic”

Your First Sentences

Learning to put things together

Data Structures & Algorithms

for “LOOP”
iteration



[1, 2, 3, 4, 5]

1
2
3
4
5

```
for i in array:  
    print(i)
```

Python, “pythonic”

```
for (i=0; i<N; i++){  
    console.log(i)  
}
```

Your First Sentences

Learning to put things together

Data Structures & Algorithms

variables




this equals that `i = 0`

Your First Sentences

Learning to put things together

Data Structures & Algorithms

while
"loop"
iteration



```
i = 0  
show me i when  
___ is true...
```


```
i = 0  
while i < 6:  
    print(i)  
    i = i + 1
```

Your First Sentences

Learning to put things together

Data Structures & Algorithms

while
"loop"
iteration



```
i = 0  
show me i when  
___ is true...
```


```
i = 0  
while i<6:  
    print(i)  
    i += 1
```


Your First Sentences

Learning to put things together

Data Structures & Algorithms

using
enumerate



Show me the index
AND value pair

```
l = [1, 2, 3, 4, 5]  
for i, v in enumerate(l):  
    print(i, v)
```

DEMO