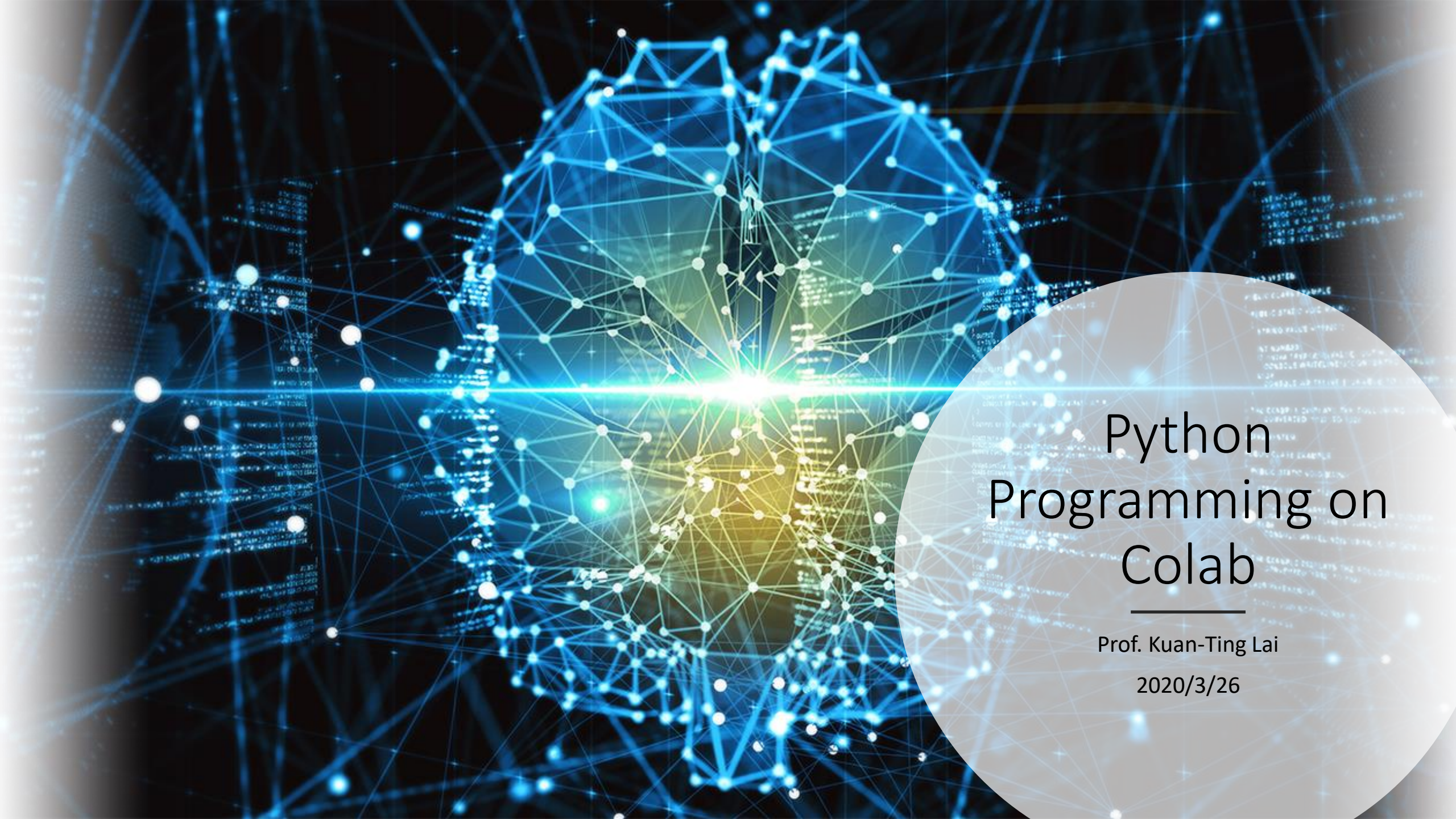
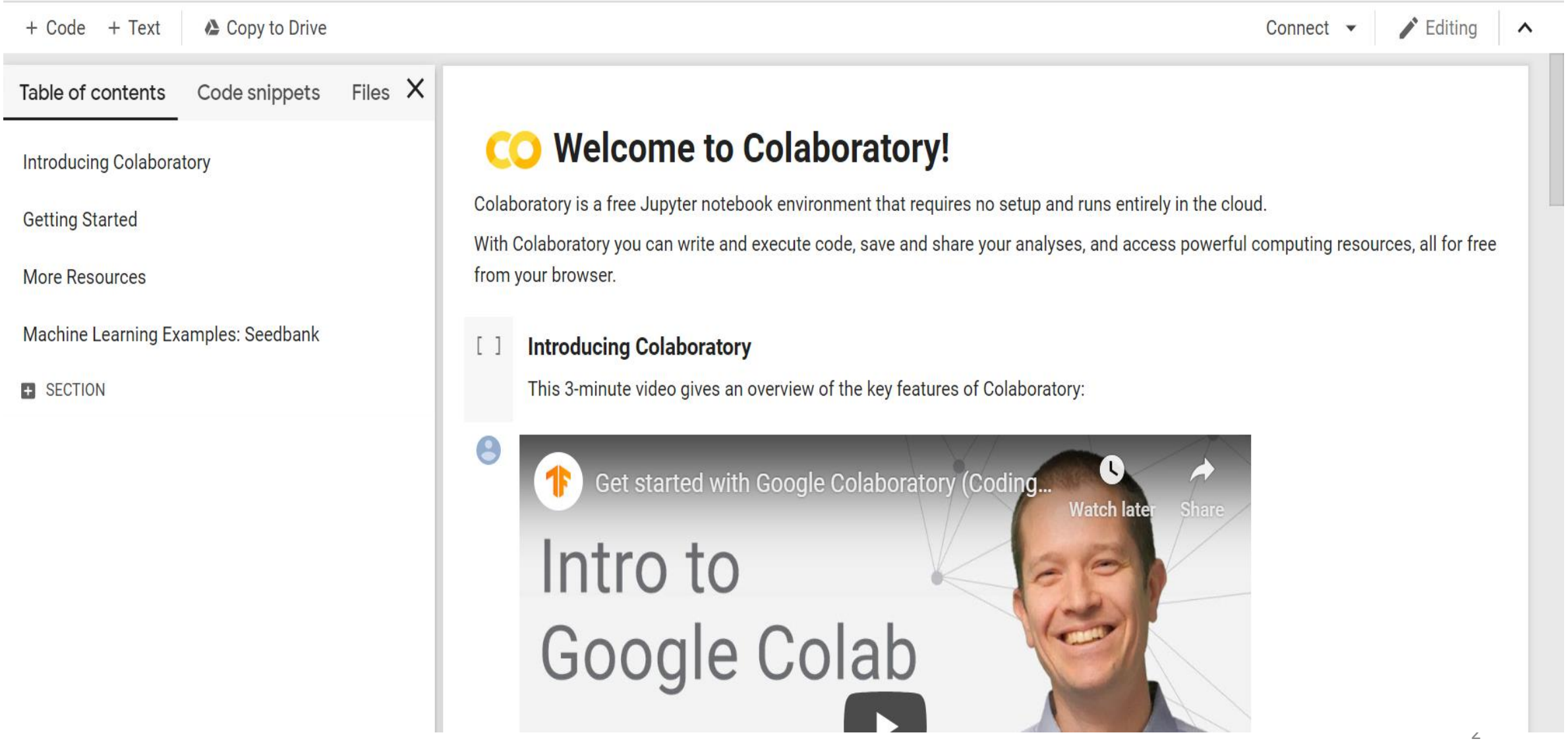


Python Programming on Colab

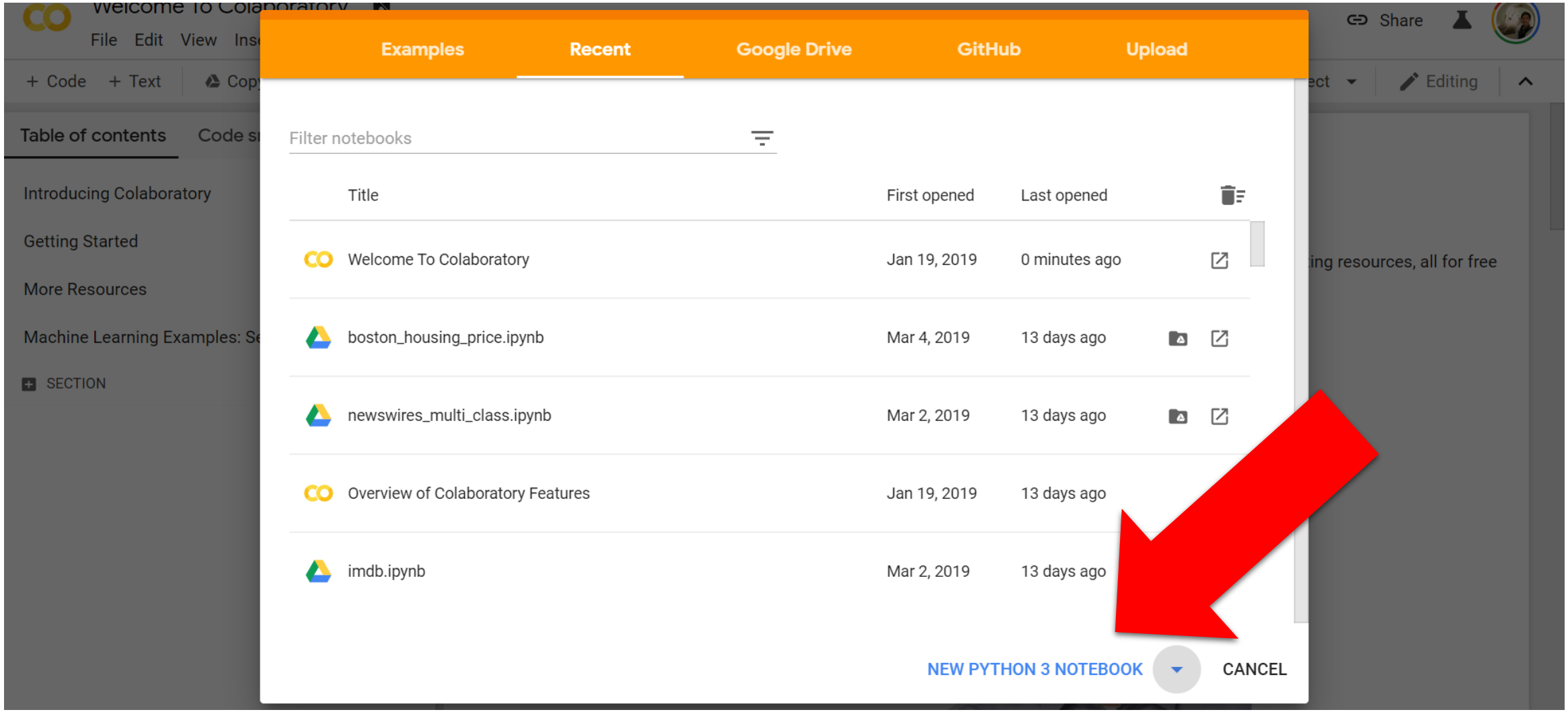
Prof. Kuan-Ting Lai

2020/3/26

Google Colaboratory

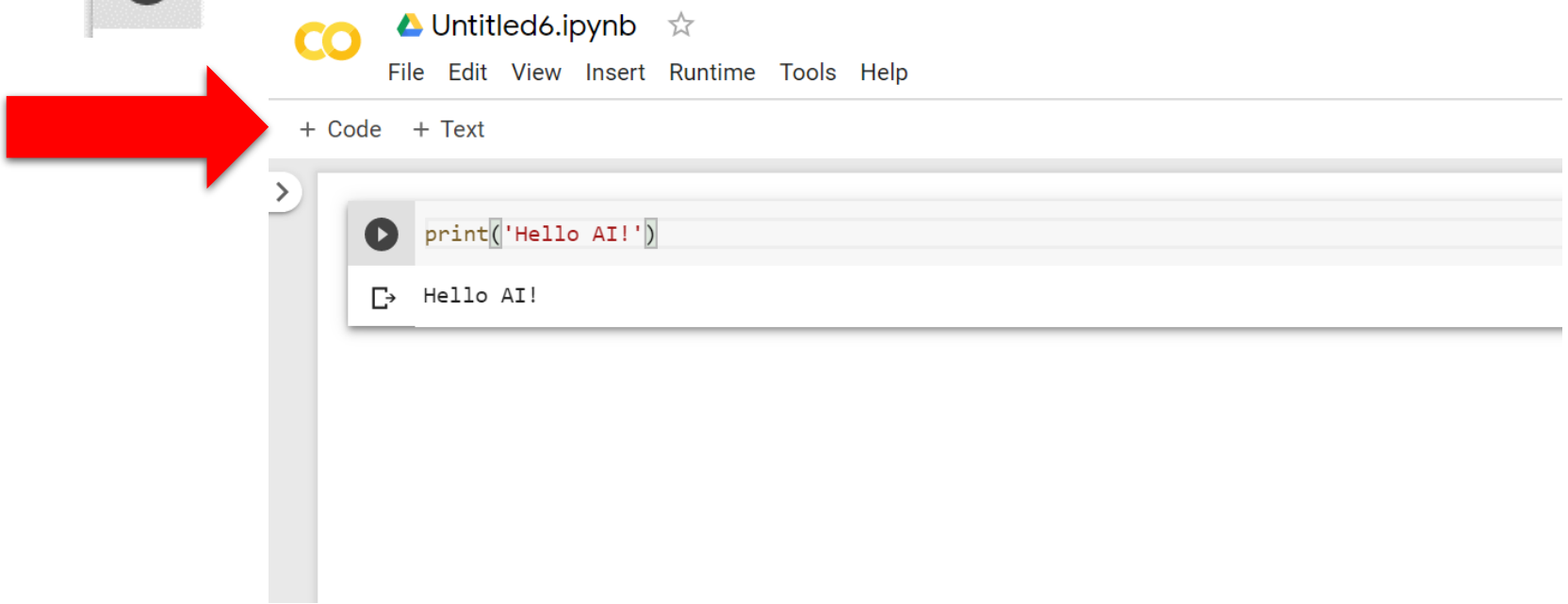


New Python 3 Notebook

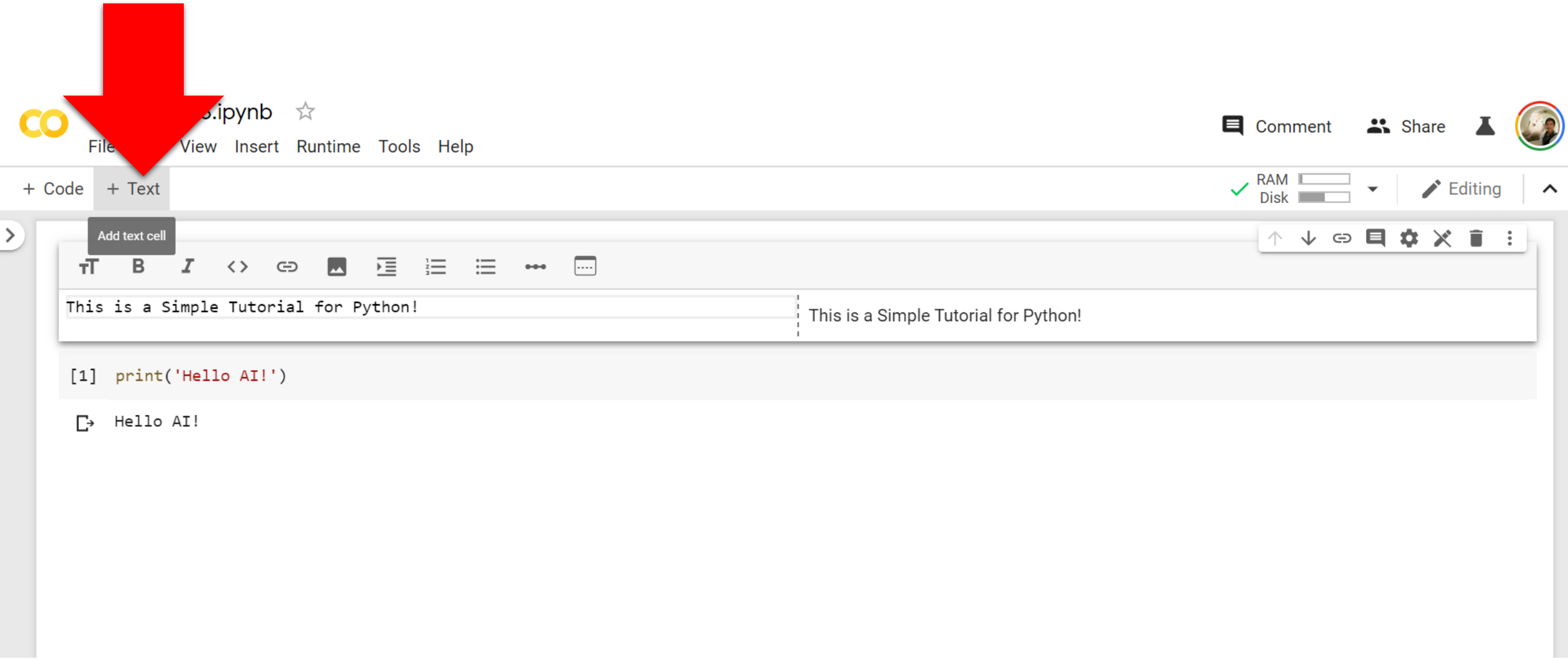


Hello World!

- Add a code cell by pressing “+ Code”
- Enter code
  - print(‘Hello AI!’)
- Press 

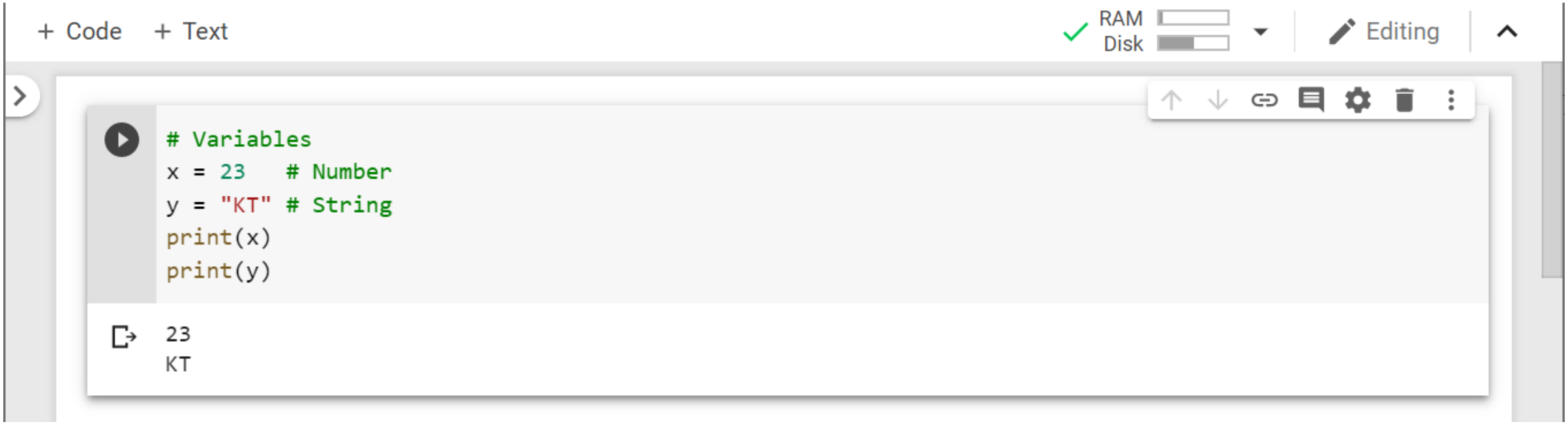


Adding a Text Cell



Creating Variables

- Variables are containers for storing data values.

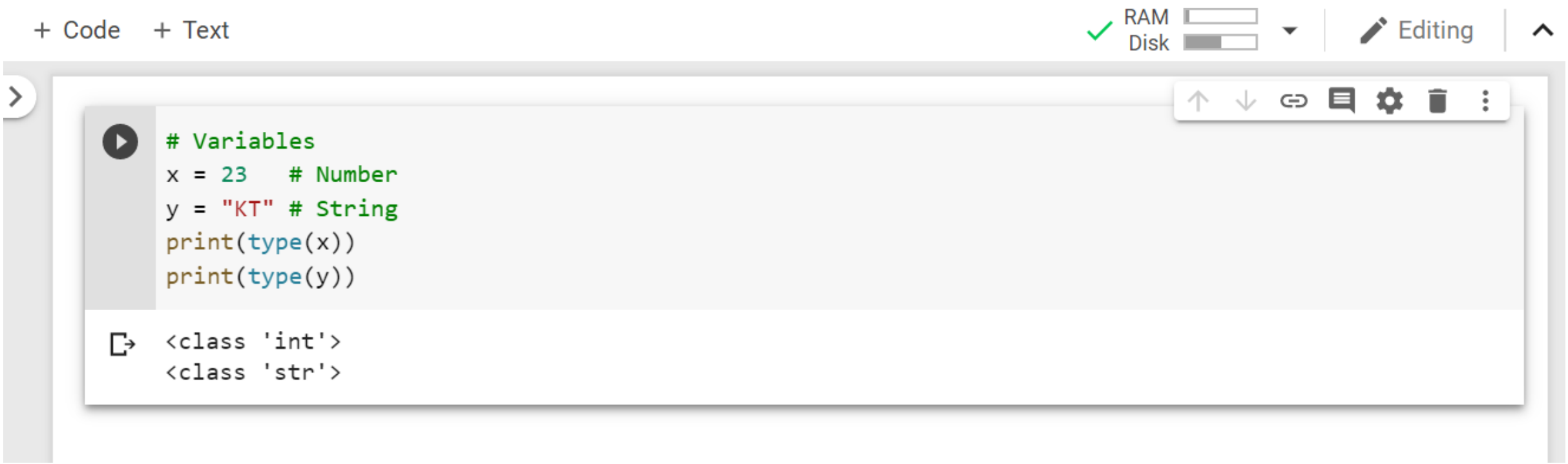


Python Data Types

Text Type:	str
Numeric Types:	int, float, complex
Sequence Types:	list, tuple, range
Mapping Type:	dict
Set Types:	set, frozenset
Boolean Type:	bool
Binary Types:	bytes, bytearray, memoryview

Printing Data Type

- Using type( )

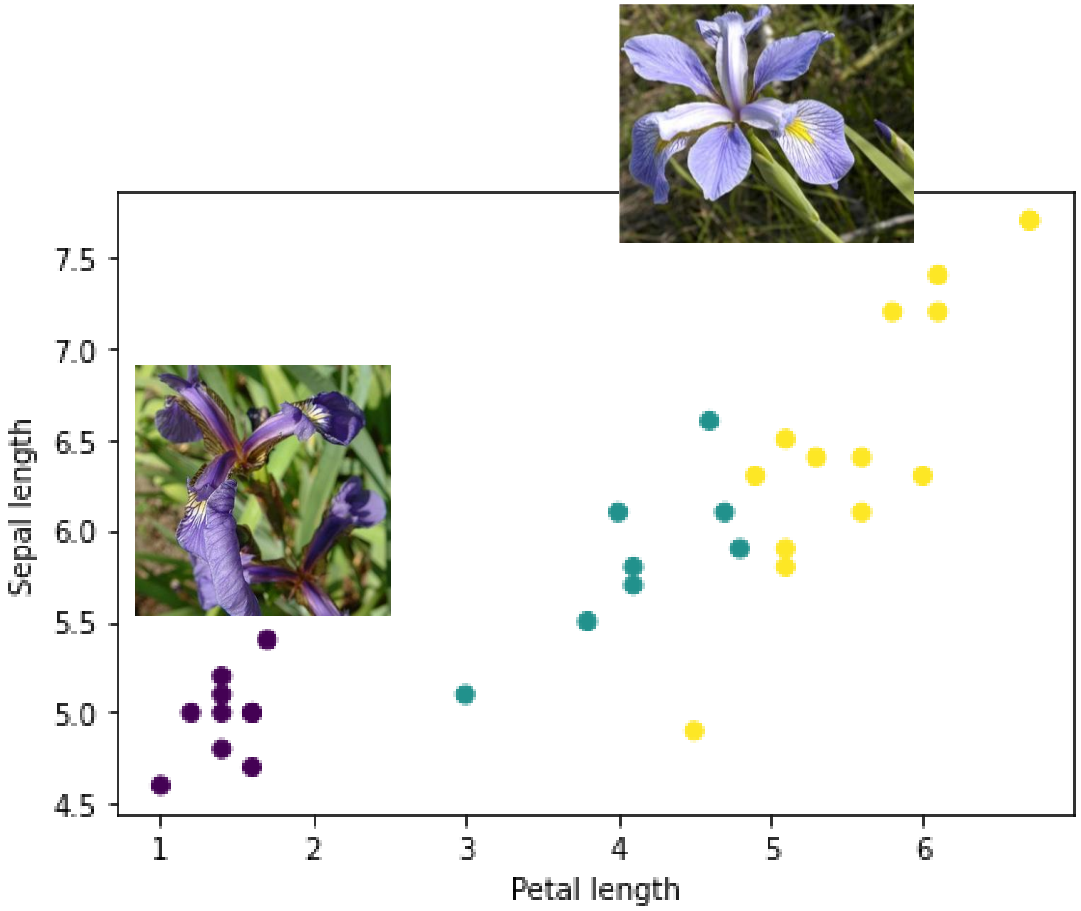


Conditional Control (if … else …)

```
petal_len=2

if petal_len > 2.5:
    print(" Iris Setosa")
else:
    if petal_len < 5:
        print("Iris Versicolor")
    else:
        print("Iris Virginica")
```

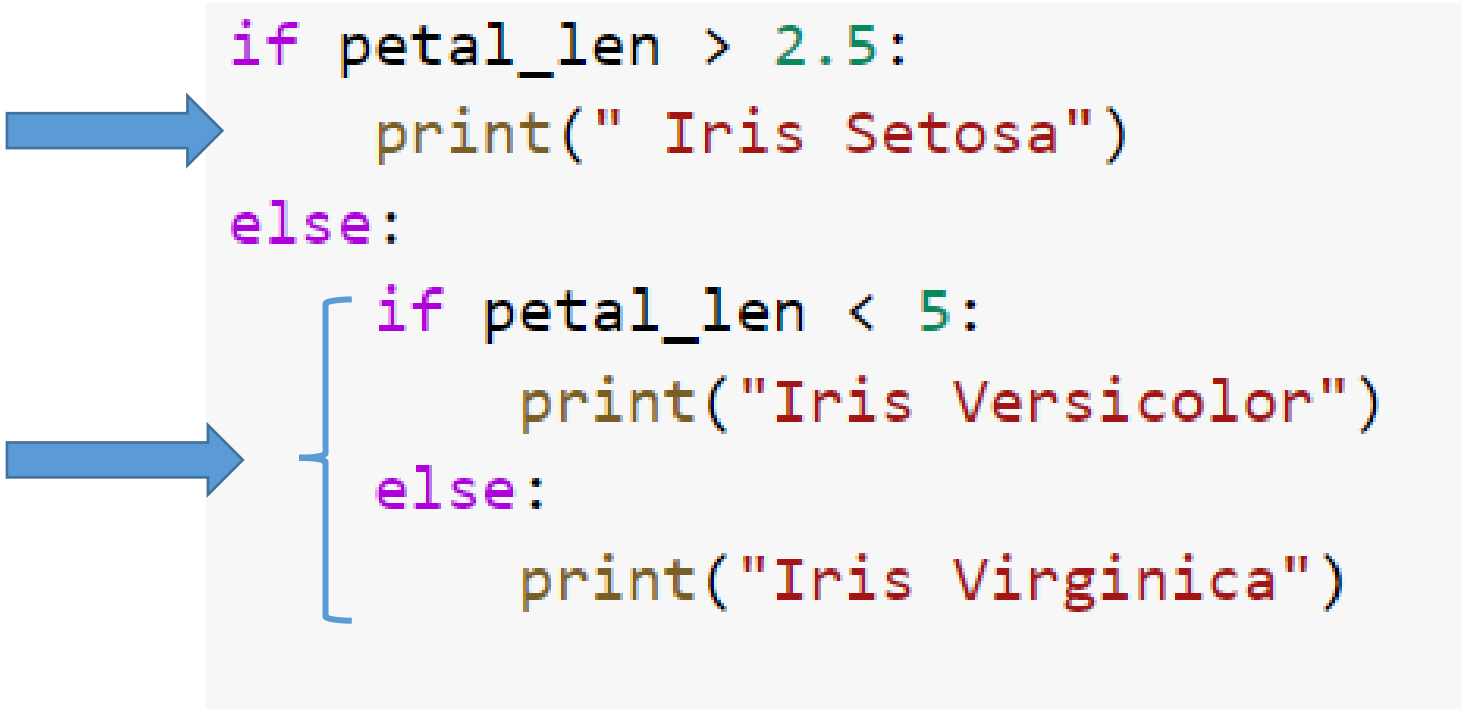
```
Iris Versicolor
```



https://www.tensorflow.org/tutorials/customization/custom_training_walkthrough

Python Syntax

- Indentation



Python Conditions and If statements

- Equals: a == b
- Not Equals: a != b
- Less than: a < b
- Less than or equal to: a <= b
- Greater than: a > b
- Greater than or equal to: a >= b

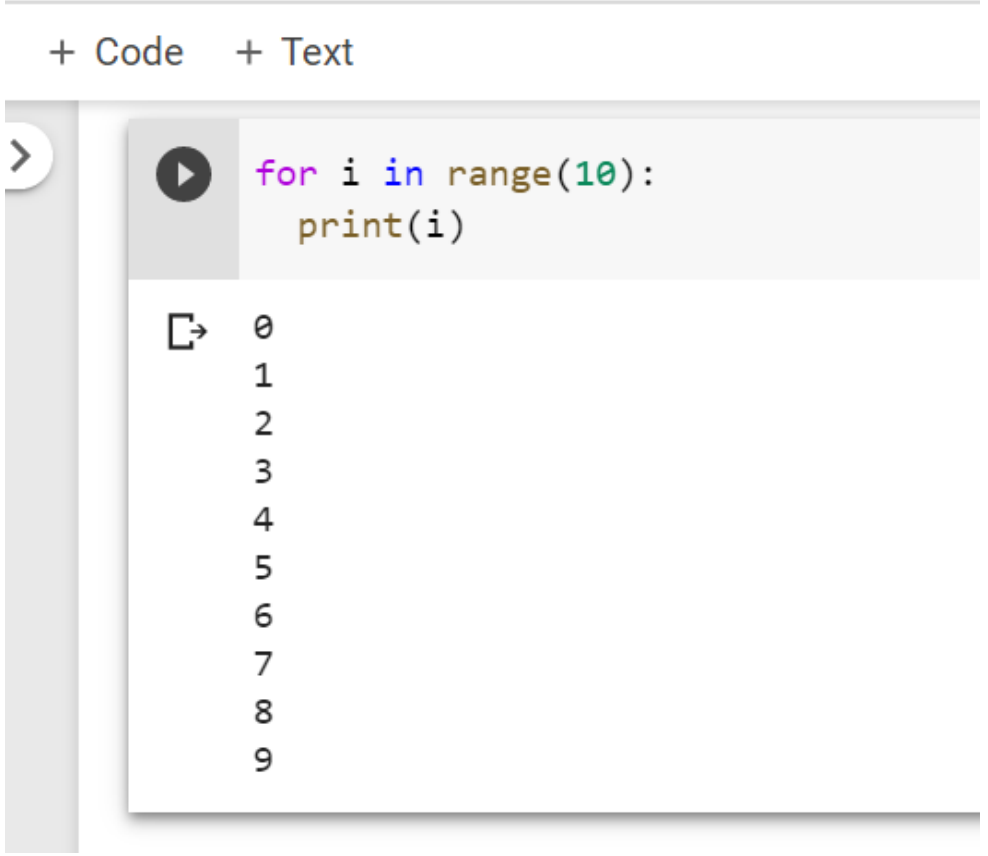
Elif

- Else if


+ Code
+ Text
RAM
Disk
Editing
a = 33
b = 33
if b > a:
print("b is greater than a")
elif a == b:
print("a and b are equal")
a and b are equal

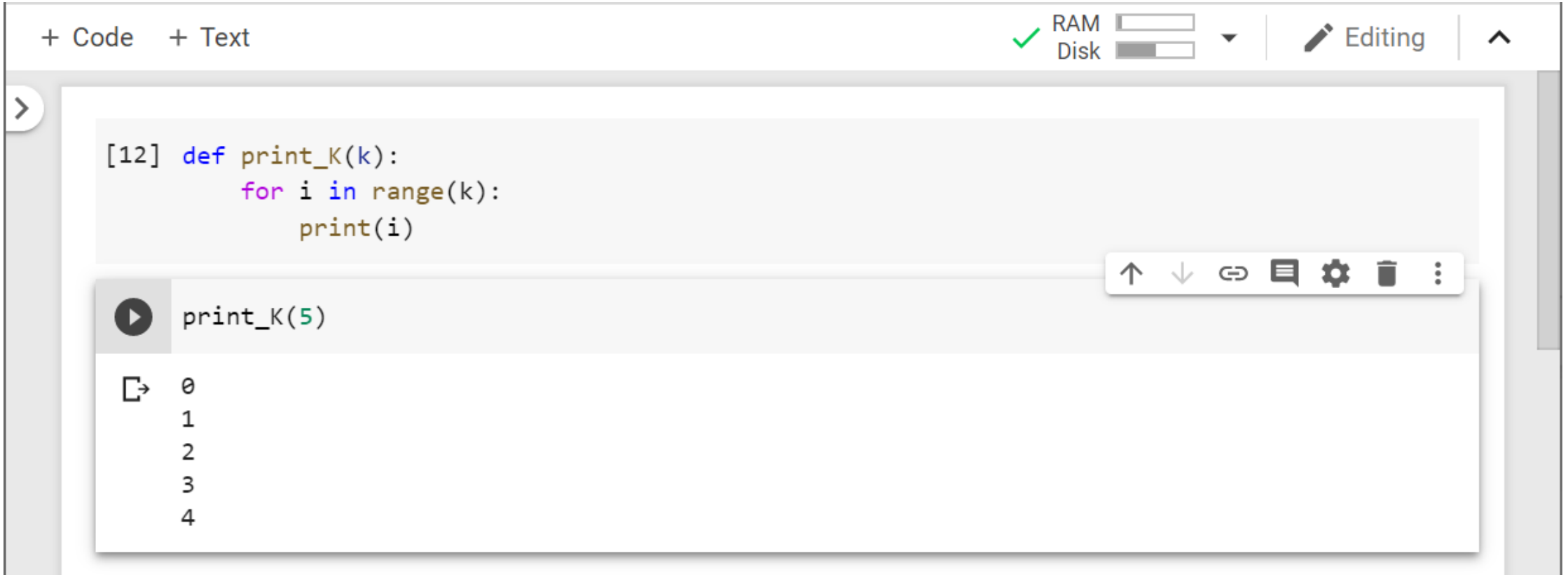
Python Loops

- while loops
- for loops

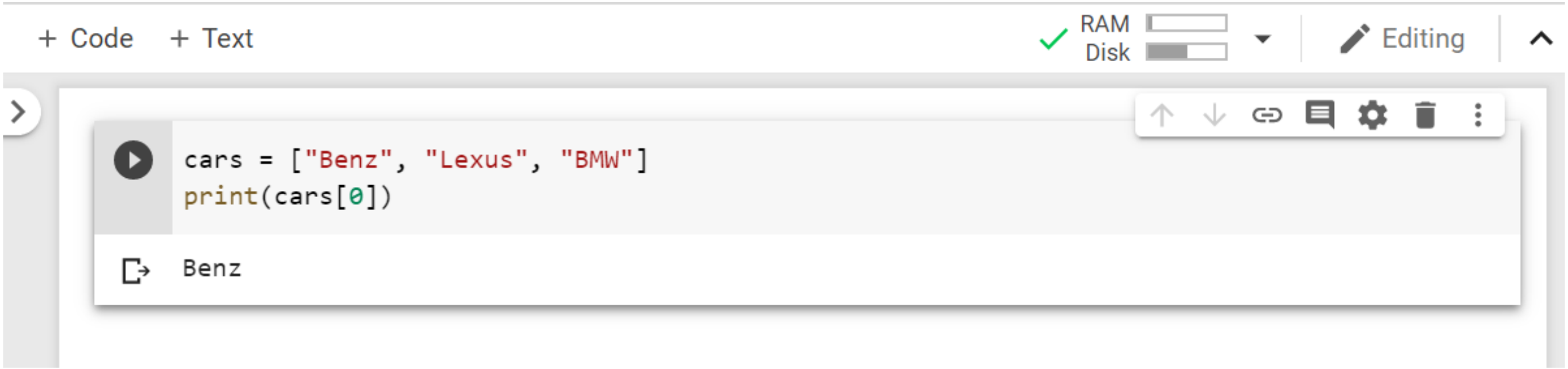


Defining function

- Using the def keyword



Python Arrays



Looping Array Elements

· Code + Text

```
[17] cars = ["Benz", "Lexus", "BMW"]
     print(cars[0])
```

```
Benz
```

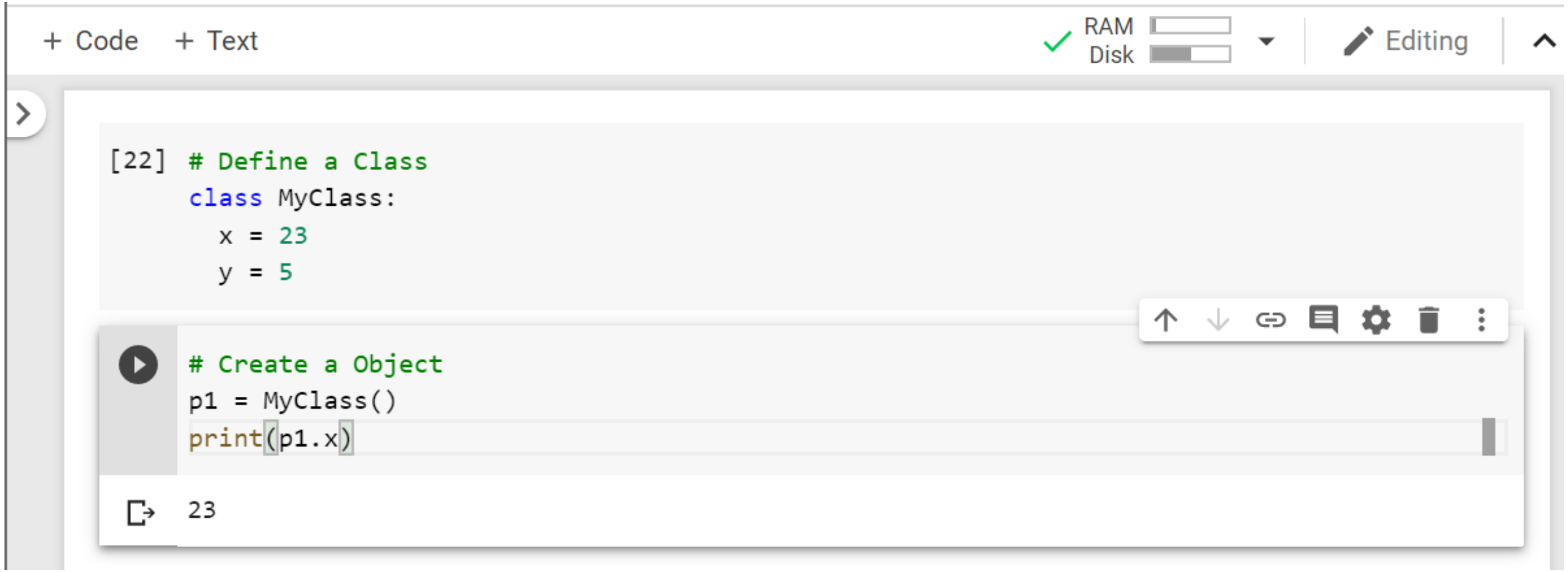
```
for x in cars:
  print(x)
```

```
Benz
Lexus
BMW
```

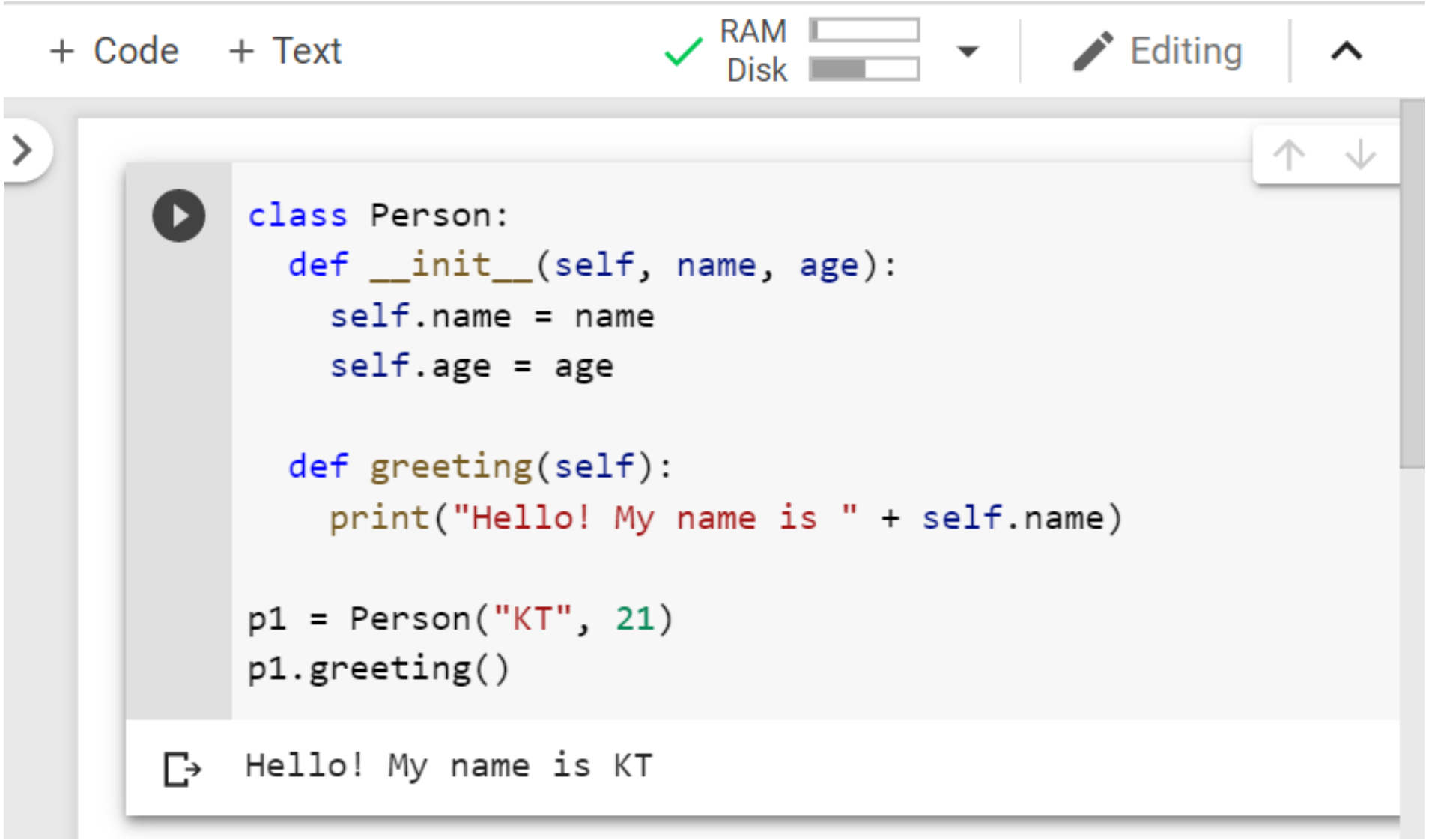
Array Methods

Method	Description
append()	Adds an element at the end of the list
clear()	Removes all the elements from the list
copy()	Returns a copy of the list
count()	Returns the number of elements with the specified value
extend()	Add the elements of a list (or any iterable), to the end of the current list
index()	Returns the index of the first element with the specified value
insert()	Adds an element at the specified position
pop()	Removes the element at the specified position
remove()	Removes the first item with the specified value
reverse()	Reverses the order of the list
sort()	Sorts the list

Class


+ Code
+ Text
RAM
Disk
Editing
[22] # Define a Class
class MyClass:
x = 23
y = 5
# Create a Object
p1 = MyClass()
print(p1.x)
23

Constructor and Methods



References

- https://www.w3schools.com/python