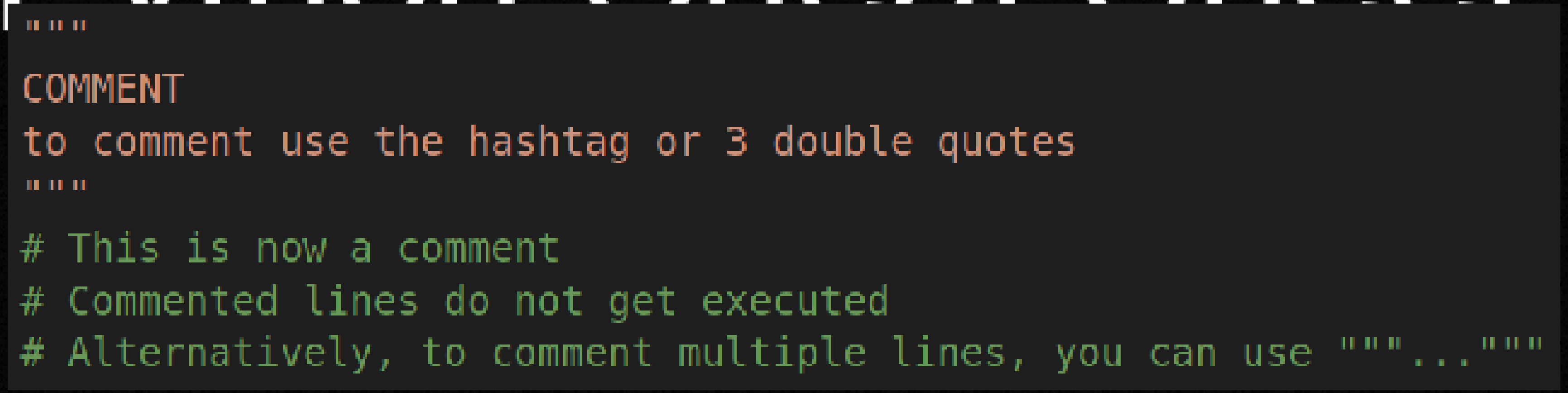
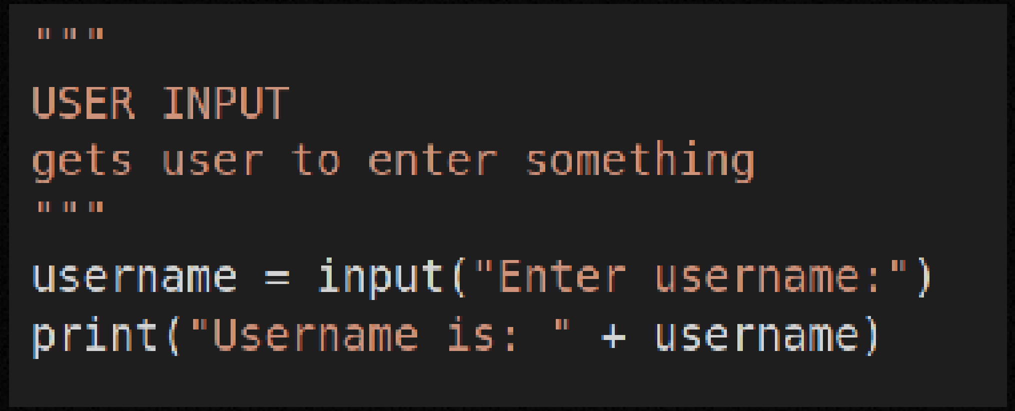
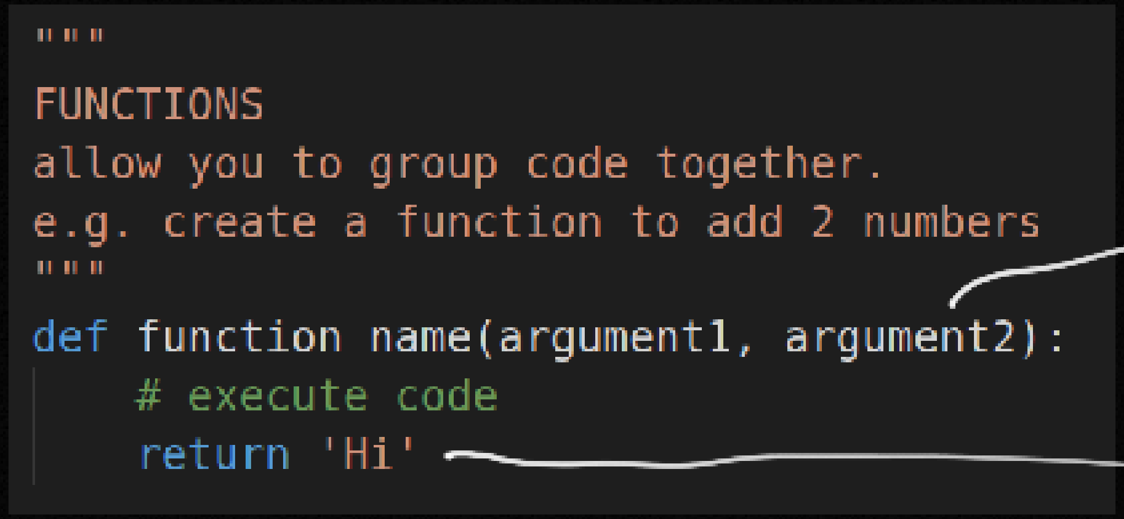
Python Cheat Sheet



```
"""
COMMENT
to comment use the hashtag or 3 double quotes
"""
# This is now a comment
# Commented lines do not get executed
# Alternatively, to comment multiple lines, you can use """..."""
```



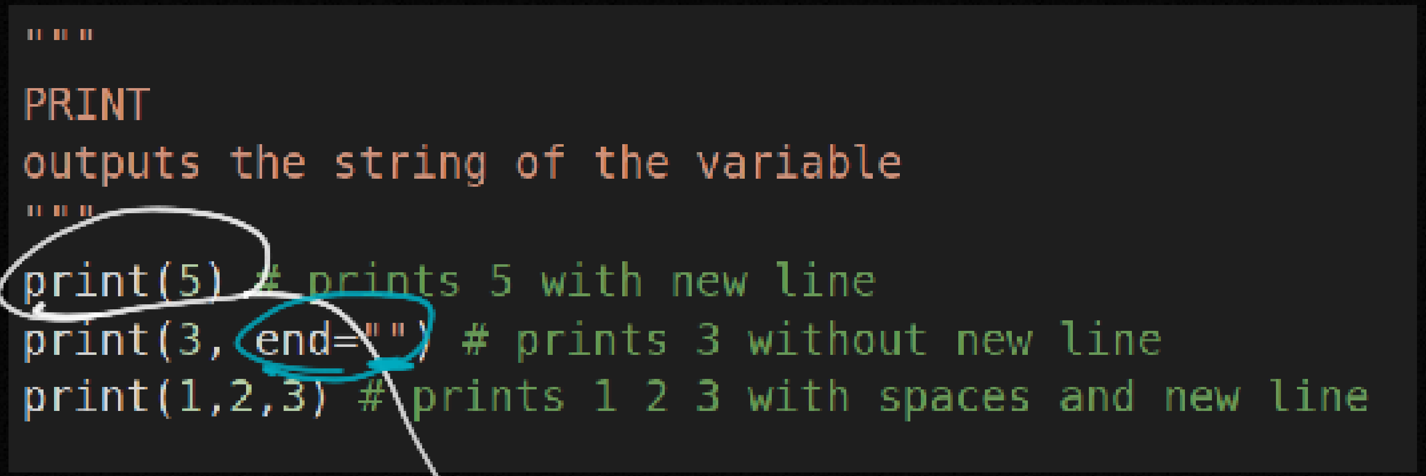
```
"""
USER INPUT
gets user to enter something
"""
username = input("Enter username:")
print("Username is: " + username)
```



```
"""
FUNCTIONS
allow you to group code together.
e.g. create a function to add 2 numbers
"""
def function name(argument1, argument2):
    # execute code
    return 'Hi'
```

Input → function → output

10, 20 → function → 30



```
"""
PRINT
outputs the string of the variable
"""
print(5) # prints 5 with new line
print(3, end="") # prints 3 without new line
print(1,2,3) # prints 1 2 3 with spaces and new line
```

print(5) → 5
print(6) 6

print(5, end="") 56
print(6, end="")

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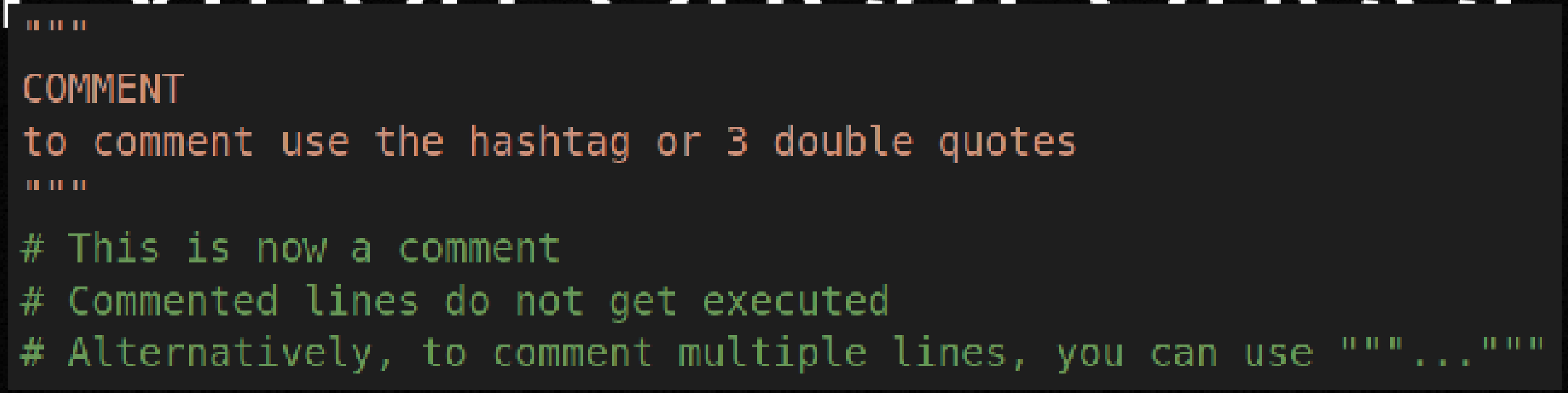

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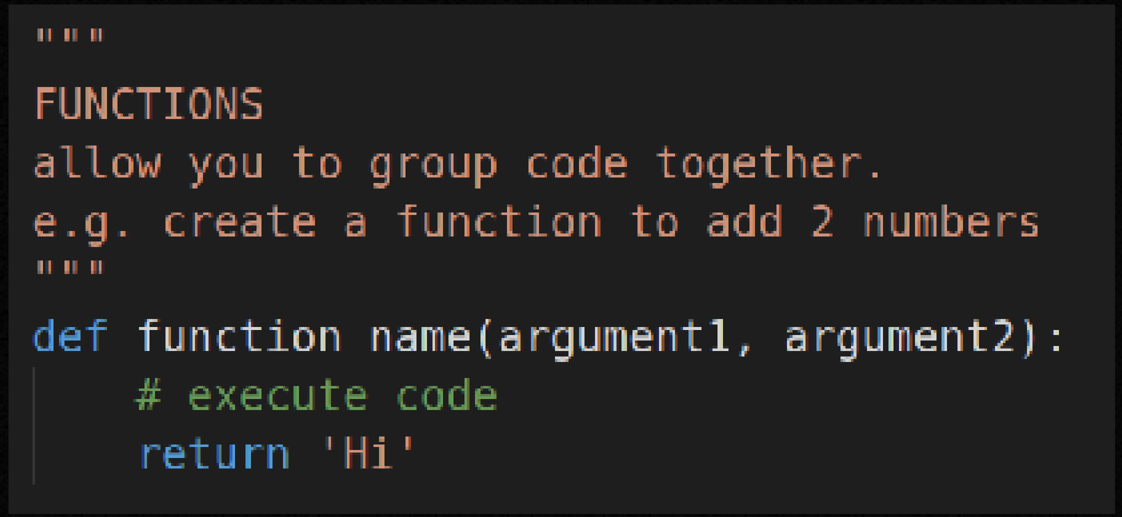

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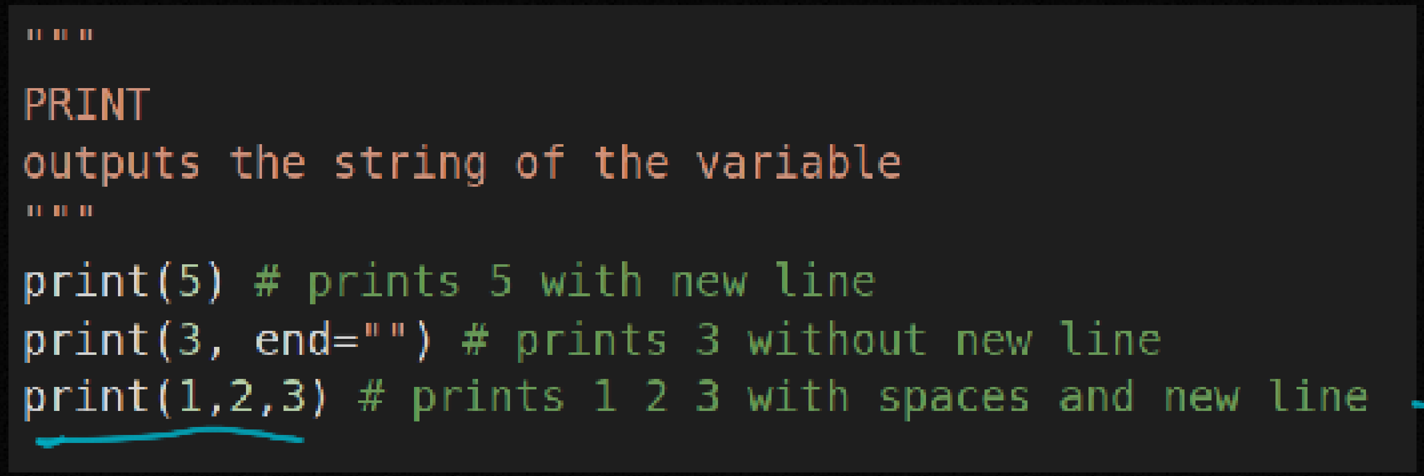

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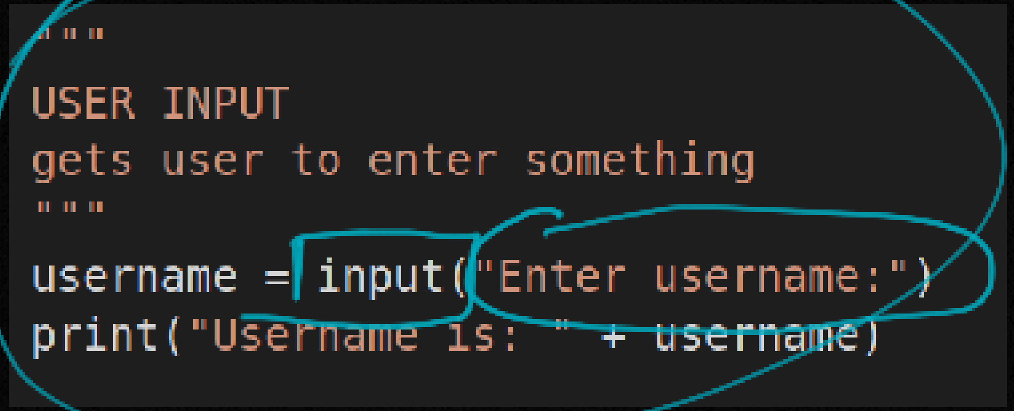


```
"""
USER INPUT
gets user to enter something
"""
username = input("Enter username:")
print("Username is: " + username)
```

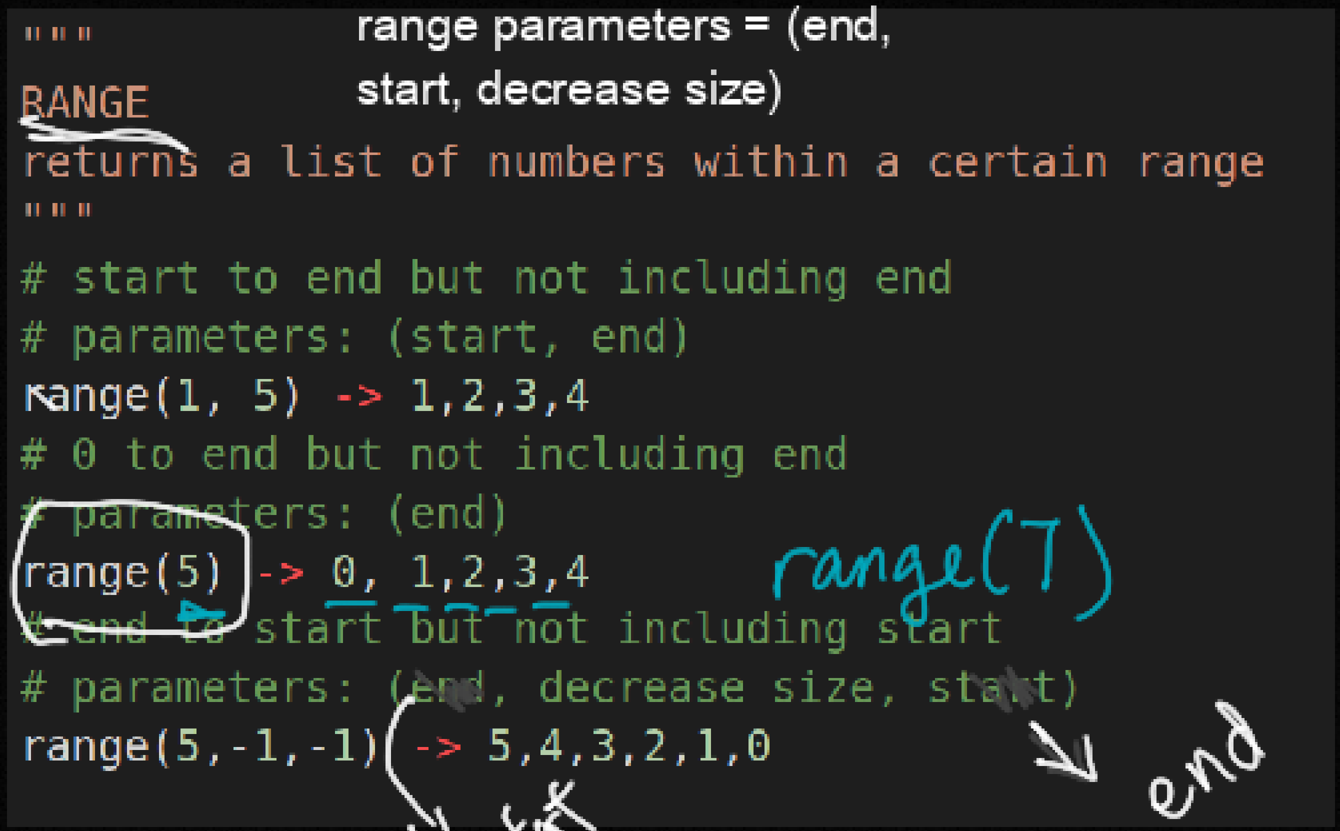
Enter username: David

Username is David

1 _ 2 _ 3

Python Cheat Sheet

Update:
range parameters = (end, start, decrease size)

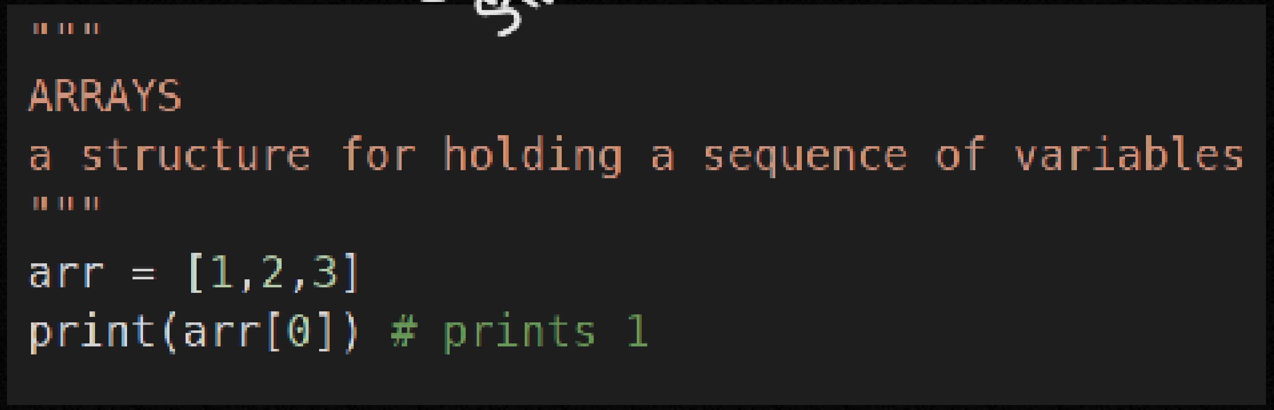


```
"""
RANGE
returns a list of numbers within a certain range
"""
# start to end but not including end
# parameters: (start, end)
range(1, 5) -> 1,2,3,4
# 0 to end but not including end
# parameters: (end)
range(5) -> 0, 1,2,3,4
# end to start but not including start
# parameters: (end, decrease size, start)
range(5,-1,-1) -> 5,4,3,2,1,0
```

range(7)

start

end

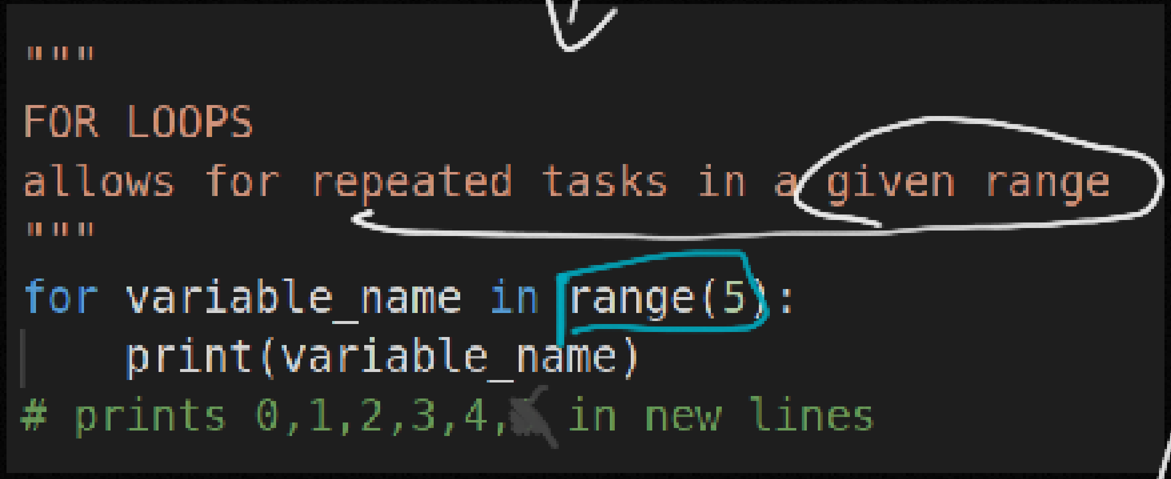


```
"""
ARRAYS
a structure for holding a sequence of variables
"""
arr = [1,2,3]
print(arr[0]) # prints 1
```

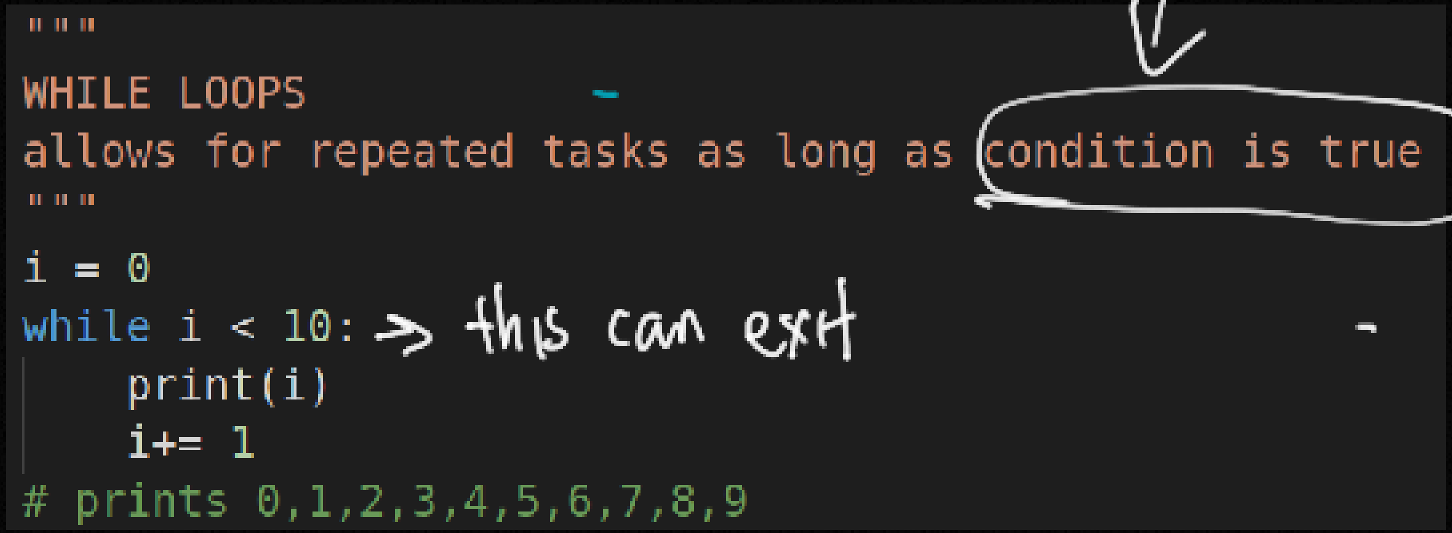
arr = [1, 2, 3]

0 1 2

arr[4]

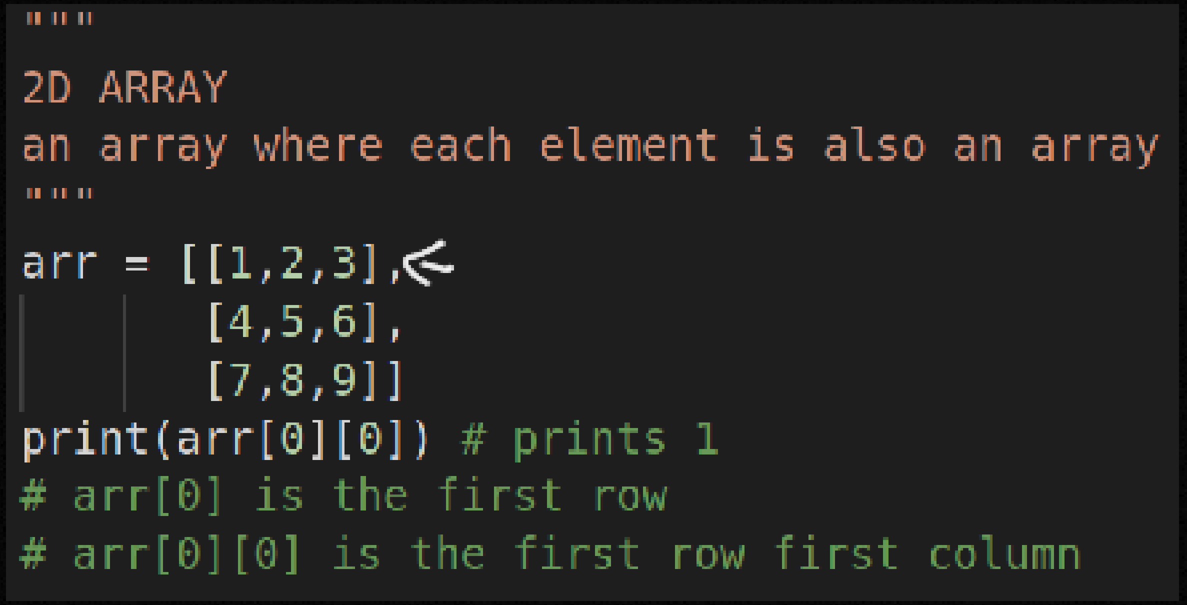


```
"""
FOR LOOPS
allows for repeated tasks in a given range
"""
for variable_name in range(5):
    print(variable_name)
# prints 0,1,2,3,4, in new lines
```



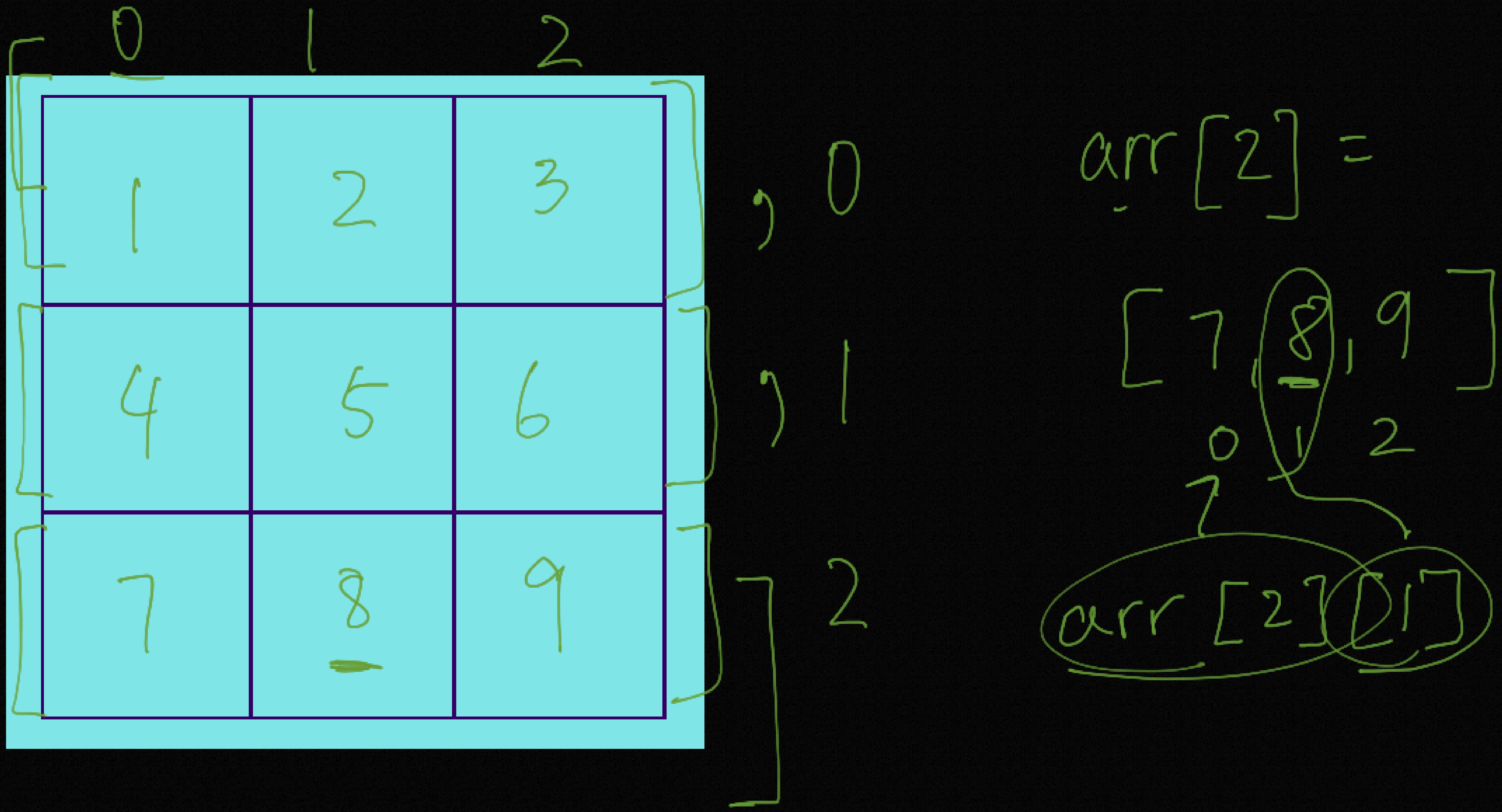
```
"""
WHILE LOOPS
allows for repeated tasks as long as condition is true
"""
i = 0
while i < 10:
    print(i)
    i+= 1
# prints 0,1,2,3,4,5,6,7,8,9
```

→ this can exit



```
"""
2D ARRAY
an array where each element is also an array
"""
arr = [[1,2,3],
       [4,5,6],
       [7,8,9]]
print(arr[0][0]) # prints 1
# arr[0] is the first row
# arr[0][0] is the first row first column
```

Indexing 2D Array



	0	1	2
0	1	2	3
1	4	5	6
2	7	8	9

arr[2] =

[7, 8, 9]

0 1 2

arr[2][1]

Looping Through 2D Array

1	2	3
4	5	6
7	8	9

a[3]a[2]a(1)a[0]

len(a) ←

a = ['X', 'O', 'X'] ?

↑ ↑ ↑ ↑

0 1 2 3

0, 1, 2

for i in range(len(a))

forward

print (a[i]) → 1

2

3

a[0] a[2]

a[1]

for i in range(len(a)-1 , -1 , -1)

start end

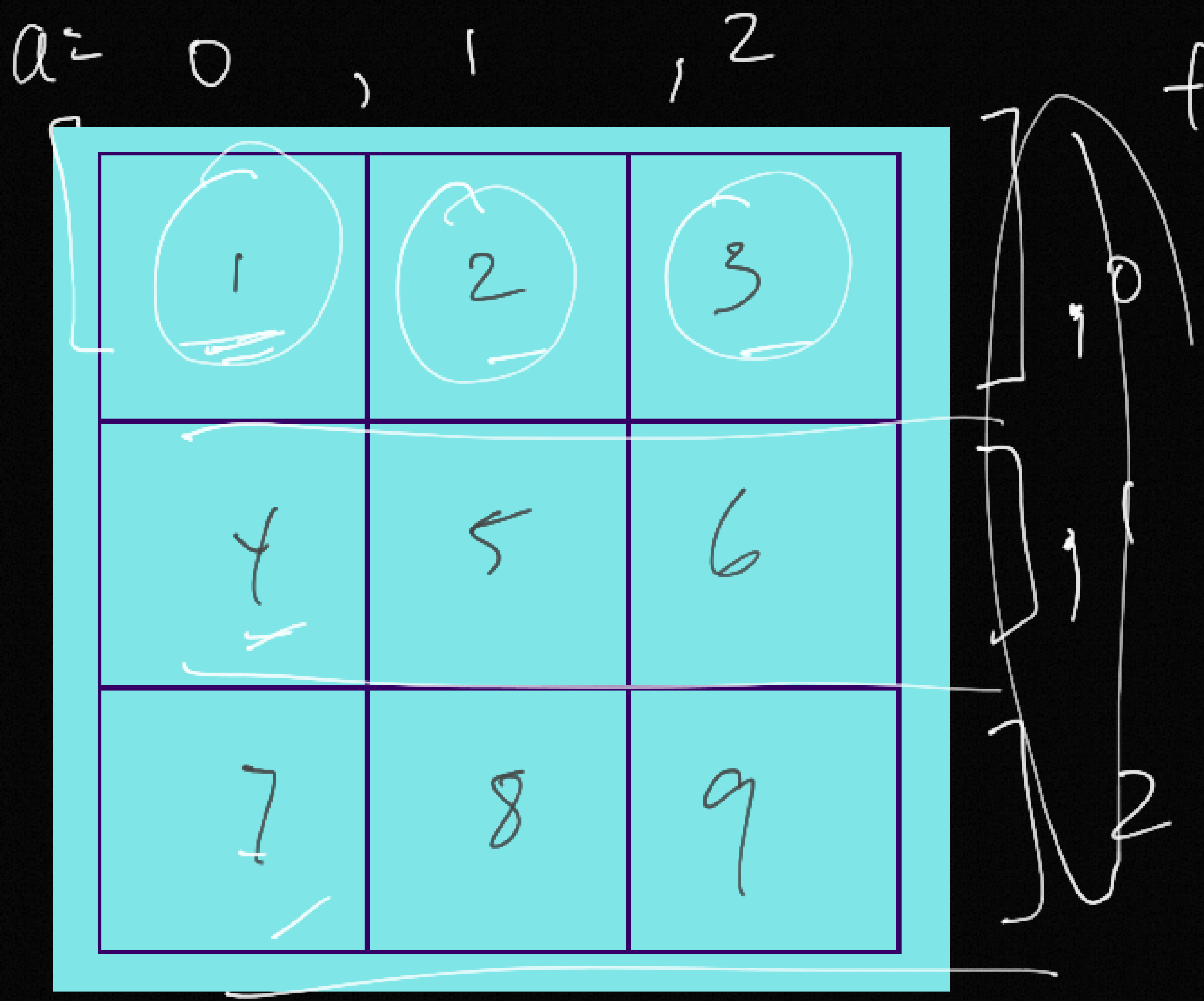
step

backward

print (a[i])

a[2] a[0]

a[1]



0

3

```
for i in range(len(a)):
    for j in range(len(a[i])):
        print(a[i][j])
```

j

[4, ...

[7,8,9]

a[i][0]