

\*Tags: [Strings](#), [Index](#), [Slice](#), [None](#), [Escape](#), [TripleQuotes](#)

## Strings

- [#Strings](#) are a textual datatype and must be wrapped in quotes
- can contain numeric characters, can be empty `" "`(used for spaces)
- can be double quotes or single quotes, can't use mixed quote signs
- can store strings as [2. Variables](#)

```
color = "Magenta"
twitter_handle = '@POTUS'
url = "www.reddit.com/r/formula1/"
```

## String Operators

- We can [#concatenate](#) strings together by using the plus sign. No space will be added between them
- `+` will concatenate strings

```
first = Luna
last = HorseLady
first + last
LunaHorseLady

first + " " + last
Luna HorseLady
```

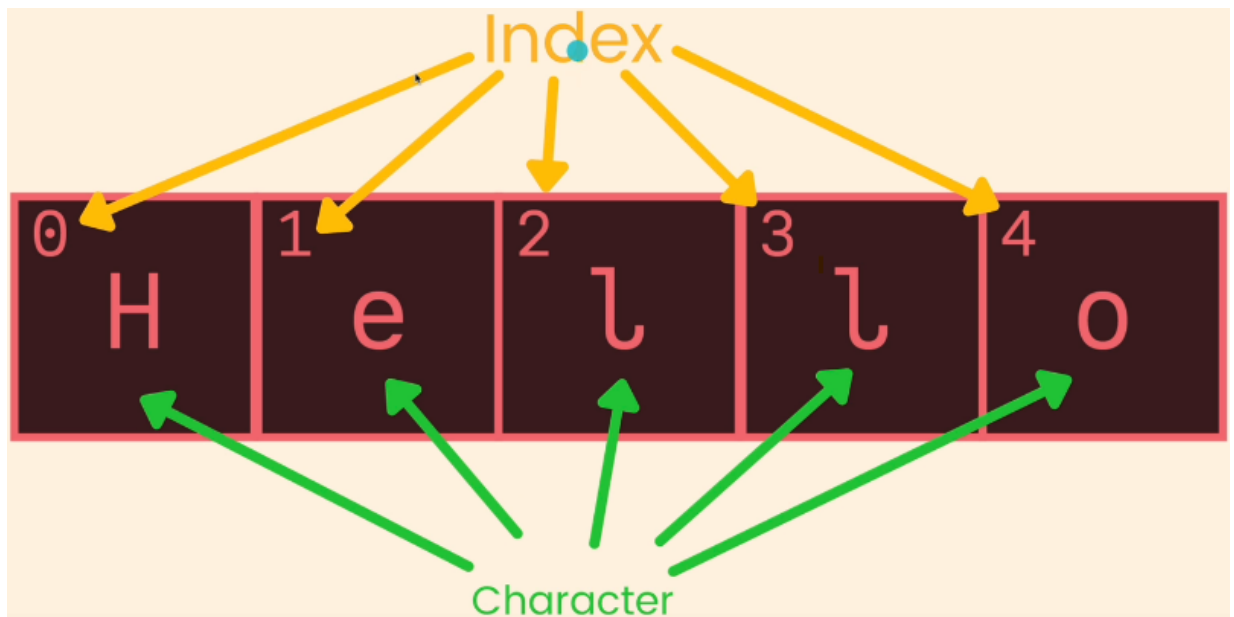
- `*` will multiply string by integer, which will repeat that string
  - can't multiply a string by a number it will repeat string instead of giving product

```
hi * 3
hihihi
```

## String Indexing

[#Index](#) = every character in the string has a corresponding number, a positional number

- starts at 0
- can use `[ ]` for string index



```
"hello" [0]
'h'

"hello" [4]
'o'
```

- can also use negative index to read backwards



## Special value *#None*

- special value in Python that denotes the lack of value. It is not the same as zero or an empty string (those are still values)
- python's version of `null`
- must be capitalized N

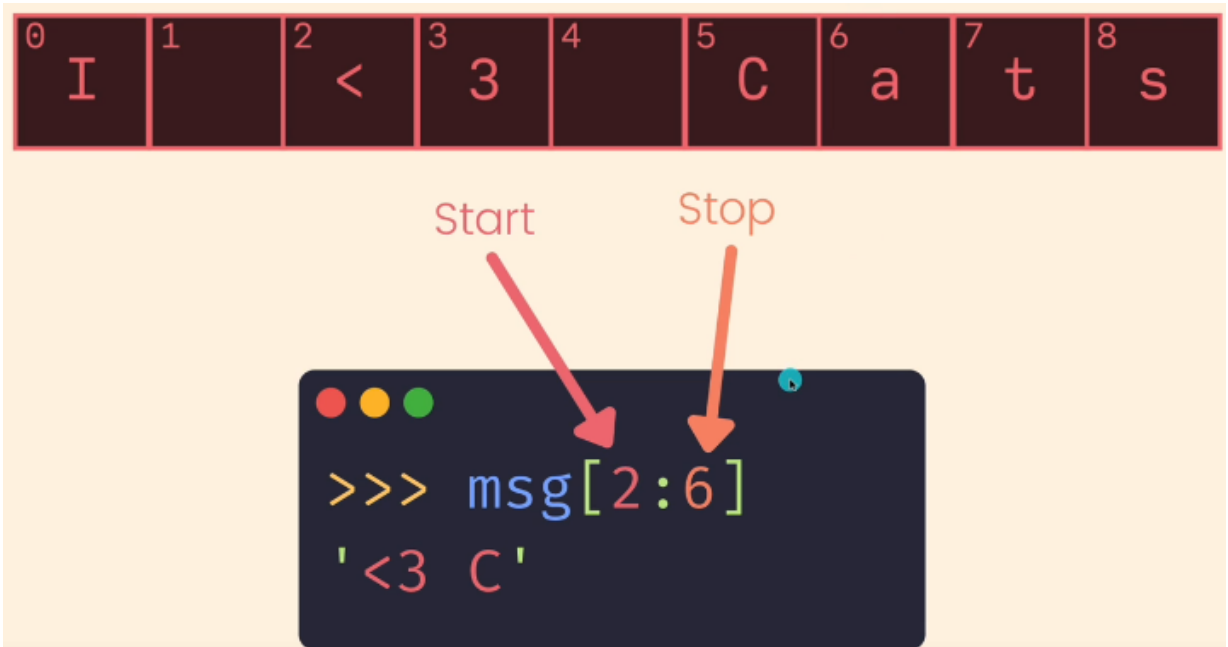
```
user = None
active_user = None

# user Ivan logs in

active_user = Ivan
```

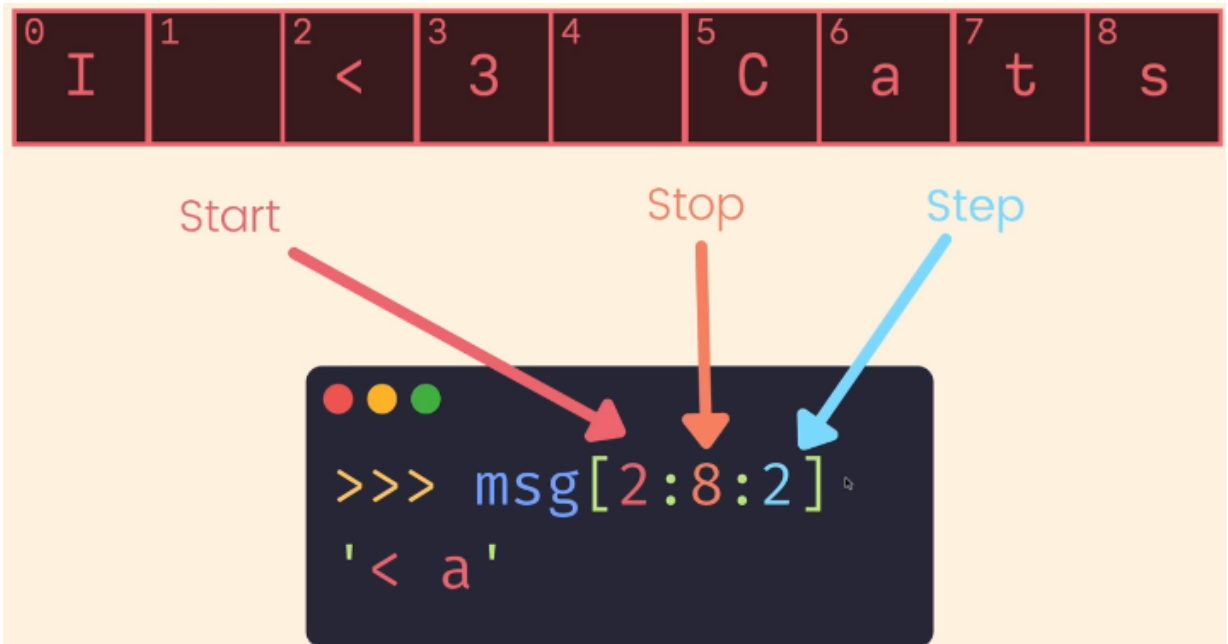
## String #Slice

- Slice cuts up index based on input
- separated by a colon
- does NOT include stopping point number in output
- `[ :4]` is the same as `[0:4]`



```
animal = catdog
animal[3:6]
dog
```

- slices with a step (not as common)



## Revisiting Print

- if we want something outputted in our code, we have to *#Print* it

```
msg = "hello!" * 99*  
print(msg)
```

## #Escape Characters

- special sequences inside of python strings that start with a backslash
  - newline `\n`
  - tab `\t`
  - double quote `\"`
  - single quote `\'`
  - backslash `\\`
- to put a new line on hello world:

```
phrase = "hello\nworld"  
print(phrase)  
hello  
world
```

## Triple Quotes

- allows writing strings across multiple lines, for human readability
- can use single or double quotes three times

```
address = '''  
Chicken Little  
123 Chicken Wing Ln  
Denver Colorado 12345  
'''  
  
print(address)  
Chicken Little  
123 Chicken Wing Ln  
Denver Colorado 12345
```

## Exercise – Nico Hulkenberg

```
first = "Nico"  
  
last = "Hulkenberg"
```

```
# - Create a variable called "full_name" that combines first and last with a
space between them.

# - Print it out

full_name = first + " " + last

print(full_name)


# - Create an "initials" variable that holds the first character of first
followed by the first character of last.

# - Print it out

initials = first[0] + last[0]

print(initials)


# - Create an "initials_2" variable that holds the first character of first
followed by the first character of last, with periods after each letter!

# - Print it out

initials_2 = first[0] + "." + last[0] + "."

print(initials_2)


# Create a "nickname" variable that holds the first 4 characters of "last"
(use a slice)

# Print it out

# nickname = last[0:4]

nickname = last[:4]

print(nickname)
```