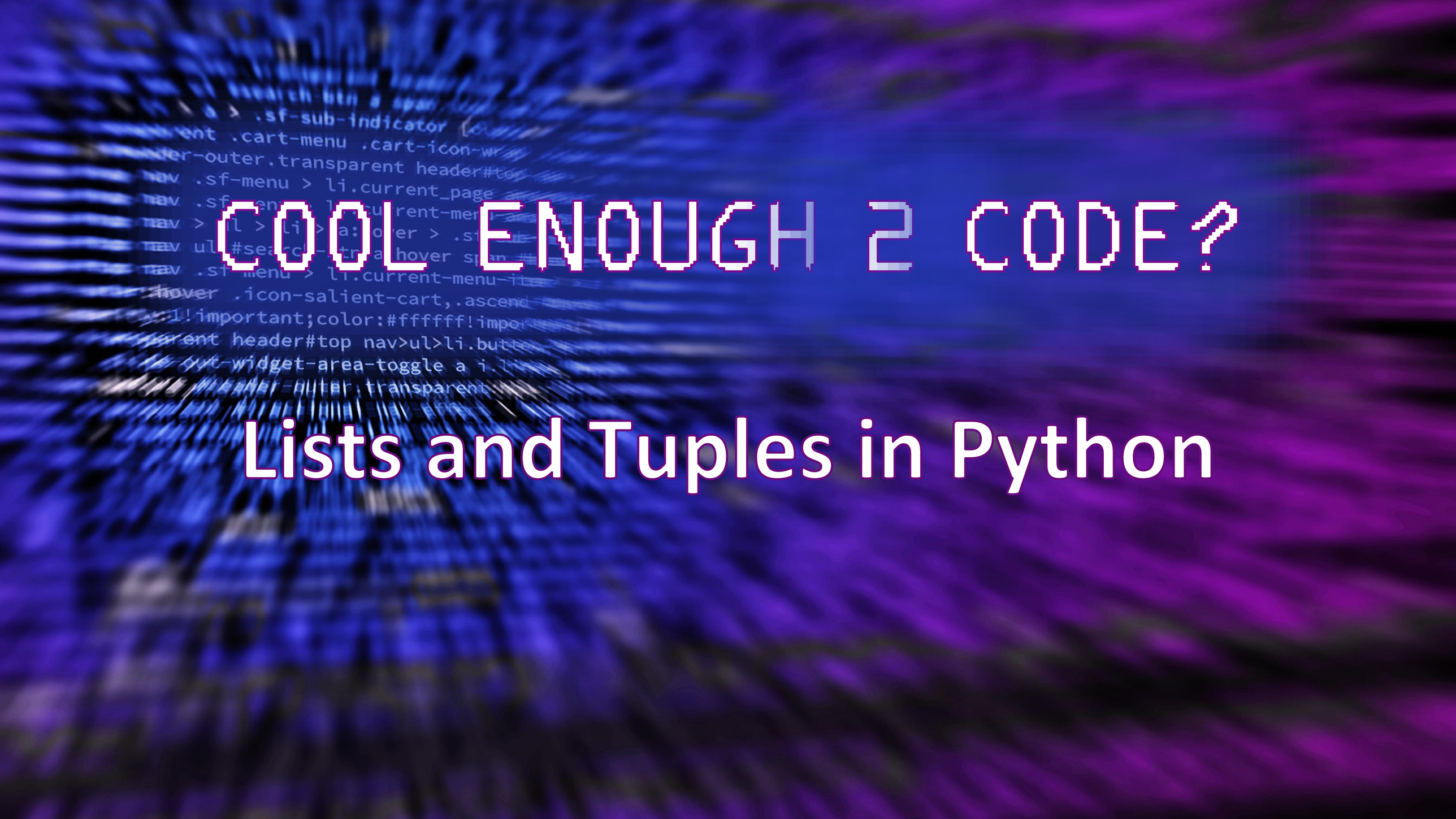
COOL ENOUGH 2 CODE?
Lists and Tuples in Python

Tuples

- **Tuples** are collections of data that are unchangeable or “immutable”
- Tuples are expressed using parenthesis ()

```
myTuple1 = (“A”,”B”,”C”)
myTuple2 = (1,2,3)
```

Lists

- **Lists** are collections of data that are changeable or “mutable”.
- Tuples are expressed using square brackets []

```
myList1 = [“A”,”B”,”C”]
myList2 = [1,2,3]
```

Ranges

- **Ranges** can access a subset of a list or tuple.
- Ranges have a start and end index.
- Ranges can also be negative.

```
Alphabet = (“A”,”B”,”C”,”D”,”E”,”F”)
print (Alphabet[0:2]) # Outputs “('A', 'B')”
print (Alphabet[2:4]) # Outputs “(‘C', ‘D')”
print (Alphabet[-3:-1]) # Outputs “(‘D’, ‘E')”
```

Tuples and Lists with For Loops

- For loops can loop over entire Tuples, Lists, or Ranges

```
Alphabet = (“A”,”B”,”C”,”D”,”E”,”F”)
for Letter in Alphabet:
  print (Letter)
```

Searching For Item in a List or Tuple

- The **in** keyword tests if an item exists in a Tuple, List, or Range and return a Boolean.
- The index() method can be used to retrieve the index of an item in a List or Tuple by value.

```
Alphabet = (“A”,”B”,”C”,”D”,”E”,”F”)
if “C” in Alphabet:
  print “C is in the Alphabet”
else
  print “C is not in the Alphabet”

print (index(“C”))
```

Getting the Length of a List or Tuple

- The **len** keyword will tell you how many items are in a list, tuple or range.

```
Alphabet = (“A”,”B”,”C”,”D”,”E”,”F”)
print (len(Alphabet)) # Output is 6
```

Combining Lists and Tuples

- The + sign can be use do combine lists and tuples.

```
Alphabet1 = (“A”,”B”,”C”)
Alphabet2 = (”D”,”E”,”F”)
Alphabet = Alphabet1 + Alphabet2
print (Alphabet) #(“A”,”B”,”C”,”D”,”E”,”F”)
```

List and Tuple Cheatsheet

Methods	Description	Example	List	Tuple
append	Adds an item to the end of a list	list.**append**(“a”)	✔	✘
insert	Adds an item at a specific index	list.**insert**(3,”b”)	✔	✘
remove	Removes an item from a list	list.**remove**(“a”)	✔	✘
del	Deletes an item at a specific index	**del** list[3]	✔	✘
clear	Remove all items in the list	list.**clear**()	✔	✘
sort	Sorts the list	list.**sort**()	✔	✘
index	Gets the index of an item in a list or tuple	list.**index**(“b”)	✔	✔
in	Check if an item is in a list or tuple	if “b” **in** list:	✔	✔
len	Gets in number of items in a list or tuple	**len**(list)	✔	✔
copy	Copies the list or tuple to a new one	list.**copy**()	✔	✔

Challenge

Create a Deck of 52 Cards

- Write code to generate a deck of cards
- Write code to randomly draw a card, and remove it.
  - Repeat this until the user quits or the deck is empty.
- **BONUS:** Shuffle the deck.