PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

J233
Coding for Journalists

LECTURER
Soo Oh

PROMPTS

Get out a pencil or pen!

start Zoom recording

Agenda

Announcements

Homework Review: Control flow review fun and games 🎉

BREAK (at some point)

If we have time: **Wrapping up the basics**

Homework

Announcements

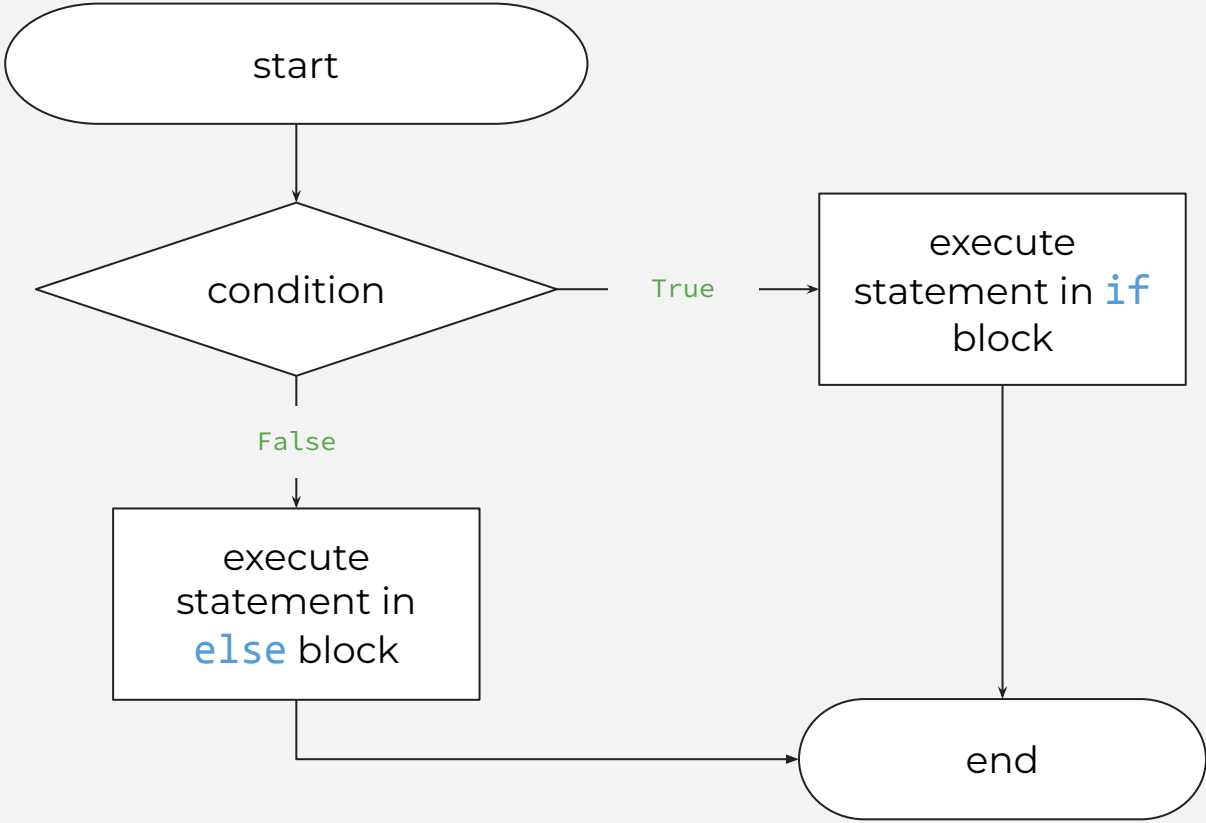
- No class next Monday for Indigenous Peoples' Day
- You can re-submit **Homework 0925**
- New **Homework 1002** will be posted in the next couple days — will change based on how far we get today
- Schedule office hours to have an informal chat about your final project with me in the next two weeks using this link (posted on class site): https://calendly.com/soooh/j233-final-project-chat

What questions do you have?

Homework Review

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

`if... else`



PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

Diagram

Is a given number positive or negative?

Diagram

Ticket prices based on age:

- Children (12 and under) enter free
- Teens (ages 13–17) pay $10
- Adults (ages 18–64) pay $15
- Seniors (ages 65+) pay $12

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

Diagram

Homework: Draw a diagram that tells a user if a given age counts as a teenager.

Diagram

Homework: Draw a flowchart for **`letter_grade`** that takes in a number between 0 and 100 and returns a letter grade.

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

Diagram

Homework: Write a **number guessing game** that asks user to pick a number from 0 to 10. You as programmer can pick the correct number. If user guesses wrong, they are prompted again until they answer correctly. If user guesses correctly, then code will print "Correct!" Save previous guesses and print them after the user guesses correct answer.

Diagram / Paper exercise

Write a function called `parity` that tells us if an argument is odd, even, or neither.

```
>>> parity(15)
'odd'

>>> parity(-48)
'even'

>>> parity(14.2)
'not an integer'

>>> parity('not a number!')
'not an integer'
```

Diagram / Paper exercise

Using the pieces of paper, write a for loop that prints each activity and how long each activity is in the following format:

"We could go **biking**. It would take **60** minutes."

```
fun_activities = [
    {"activity": "biking", "duration": 60},
    {"activity": "watch a movie", "duration": 180},
    {"activity": "hiking", "duration": 150}
]
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

Diagram / Paper exercise

Homework: **FizzBuzz** is a CLASSIC exercise. Write a loop that prints out numbers from 0 to 100, but replaces any number divisible by 3 with "fizz" and any number divisible by 5 with the "buzz". For a number that is divisible by both 3 and 5, replace with "fizz buzz". Hint: You'll be using the modulo operator.

Output:

```
0
1
2
"fizz"
4
"buzz"
"fizz"
7
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

Break

Meet back in 15 minutes.

X:XX p.m.

Wrapping up the basics

Download this notebook off the class website

lecture1002.ipynb

More Python

`list`, `set`, `dict` comprehensions

`False`, `0`, `True`, `1`

`id()`, `is`, `is not`

`del`

`list`, `set`, and `dict` comprehensions are a bit like `for` loops.

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

list comprehension

```
cubes = []
for x in range(5):
    cubes.append(x**3)
cubes
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

list comprehension

```
cubes = []
for x in range(5):
    cubes.append(x**3)
cubes
Out[]: [0, 1, 8, 27, 64]
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

list comprehension

```
cubes = []
for x in range(5):
    cubes.append(x**3)
cubes
Out[]: [0, 1, 8, 27, 64]

# does the same thing as

# this is list comprehension:
cubes = [x**3 for x in range(5)]
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

list comprehension

```
cubes = []
for x in range(5):
    cubes.append(x**3)
cubes
Out[]: [0, 1, 8, 27, 64]

# does the same thing as

# this is list comprehension:
cubes = [x**3 for x in range(5)]
cubes
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

list comprehension

```
cubes = []
for x in range(5):
    cubes.append(x**3)
cubes
Out[]: [0, 1, 8, 27, 64]

# does the same thing as

# this is list comprehension:
cubes = [x**3 for x in range(5)]
cubes
Out[]: [0, 1, 8, 27, 64]
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

list comprehension

```
cubes = []
for x in range(5):
    cubes.append(x**3)
cubes
Out[]: [0, 1, 8, 27, 64]

# does the same thing as

# this is list comprehension:
cubes = [x**3 for x in range(5)]
cubes
Out[]: [0, 1, 8, 27, 64]
```

More Python

`list`, `set`, `dict` comprehensions

`False`, `0`, `True`, `1`

`id()`, `is`, `is not`

`del`

```
cubes = {x**3 for x in range(5)}
cubes
Out[]: {0, 1, 8, 27, 64}
```

More Python

list, set, dict
comprehensions

False, 0, True, 1

id(), is, is not

del

```
cubes = {x**3 for x in range(5)}
cubes
Out[]: {0, 1, 8, 27, 64}

# Why do it as a set? When you want
# to quickly get uniques
random_list = [x**0 for x in [1, 2, 3]]
random_list
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict
comprehensions

False, 0, True, 1

id(), is, is not

del

```
cubes = {x**3 for x in range(5)}
cubes
Out[]: {0, 1, 8, 27, 64}

# Why do it as a set? When you want
# to quickly get uniques
random_list = [x**0 for x in [1, 2, 3]]
random_list
Out[]: [1, 1, 1]
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
cubes = {x**3 for x in range(5)}
cubes
Out[]: {0, 1, 8, 27, 64}

# Why do it as a set? When you want
# to quickly get uniques
random_list = [x**0 for x in [1, 2, 3]]
random_list
Out[]: [1, 1, 1]

random_set = {x**0 for x in [1, 2, 3]}
random_set
Out[]:
```

More Python

list, set, dict
comprehensions

False, 0, True, 1

id(), is, is not

del

```
cubes = {x**3 for x in range(5)}
cubes
Out[]: {0, 1, 8, 27, 64}

# Why do it as a set? When you want
# to quickly get uniques
random_list = [x**0 for x in [1, 2, 3]]
random_list
Out[]: [1, 1, 1]

random_set = {x**0 for x in [1, 2, 3]}
random_set
Out[]: {1}
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict
comprehensions

False, 0, True, 1

id(), is, is not

del

```
random_dict = {x: x.upper() for x in ['name', 'age']}
random_dict
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
random_dict = {x: x.upper() for x in ['name', 'age']}
random_dict
Out[]: {'name': 'NAME', 'age': 'AGE'}
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
random_dict = {x: x.upper() for x in ['name', 'age']}
random_dict
Out[]: {'name': 'NAME', 'age': 'AGE'}

letters = {char: char.lower() for char in ['A', 'B', 'C']}
letters
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
random_dict = {x: x.upper() for x in ['name', 'age']}
random_dict
Out[]: {'name': 'NAME', 'age': 'AGE'}

letters = {char: char.lower() for char in ['A', 'B', 'C']}
letters
Out[]: {'A': 'a', 'B': 'b', 'C': 'c'}
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

`list`, `set`, `dict` comprehensions

`False`, `0`, `True`, `1`

`id()`, `is`, `is not`

`del`

Let's talk about zeros and ones.

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1

bool(1)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1

bool(1)
Out[]: True
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1

bool(1)
Out[]: True

bool(2)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1

bool(1)
Out[]: True

bool(2)
Out[]: True
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1

bool(1)
Out[]: True

bool(2)
Out[]: True

bool(-1000)
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
int(False)
Out[]: 0

int(True)
Out[]: 1

bool(1)
Out[]: True

bool(2)
Out[]: True

bool(-1000)
Out[]: True
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False

0 == False
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False

0 == False
Out[]: True
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False

0 == False
Out[]: True

1 == True
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False

0 == False
Out[]: True

1 == True
Out[]: True
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False

0 == False
Out[]: True

1 == True
Out[]: True

2 == True
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
bool(0)
Out[]: False

0 == False
Out[]: True

1 == True
Out[]: True

2 == True
Out[]: False
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
def letter_grade_simple(points):
    if points >= 90:
        return 'A'
    elif points >= 80:
        return 'B'
    elif points >= 70:
        return 'C'
    elif points >= 60:
        return 'D'
    else:
        return 'F'

letter_grade_simple(True)
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
def letter_grade_simple(points):
    if points >= 90:
        return 'A'
    elif points >= 80:
        return 'B'
    elif points >= 70:
        return 'C'
    elif points >= 60:
        return 'D'
    else:
        return 'F'

letter_grade_simple(True)
Out[]: 'F'
```

More Python

`list`, `set`, `dict` comprehensions

`False`, `0`, `True`, `1`

`id()`, `is`, `is not`

`del`

When are two items `==` to each other but `is not` to each other?

What does that even mean?

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]: False
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]: False

id(list_a)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]: False

id(list_a)
Out[]: 139722130120640
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]: False

id(list_a)
Out[]: 139722130120640

id(list_b)
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]: False

id(list_a)
Out[]: 139722130120640

id(list_b)
Out[]: 139722130120640
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_a == list_b
Out[]: True

list_a is list_b
Out[]: True

list_a is not list_b
Out[]: False

id(list_a)
Out[]: 139722130120640

id(list_b)
Out[]: 139722130120640
```

these numbers will change every time you restart your notebook

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_b[1] = 'world!'
list_b
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_b[1] = 'world!'
list_b
Out[]: ['hello', 'world!']

list_a
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_a = ['hello', 'world']
list_b = list_a

list_b[1] = 'world!'
list_b
Out[]: ['hello', 'world!']

list_a
Out[]: ['hello', 'world!']
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_c = ['hello', 'world']
list_d = ['hello', 'world']

list_c is list_d
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_c = ['hello', 'world']
list_d = ['hello', 'world']

list_c is list_d
Out[]: False
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_c = ['hello', 'world']
list_d = ['hello', 'world']

list_c is list_d
Out[]: False

id(list_c)
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_c = ['hello', 'world']
list_d = ['hello', 'world']

list_c is list_d
Out[]: False

id(list_c)
Out[]: 139722129863552
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_c = ['hello', 'world']
list_d = ['hello', 'world']

list_c is list_d
Out[]: False

id(list_c)
Out[]: 139722129863552

id(list_d)
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
list_c = ['hello', 'world']
list_d = ['hello', 'world']

list_c is list_d
Out[]: False

id(list_c)
Out[]: 139722129863552

id(list_d)
Out[]: 139723809589824
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
# Check if a value is equal to NoneType
x = None
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
# Check if a value is equal to NoneType
x = None

x == None
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
# Check if a value is equal to NoneType
x = None

x == None
Out[]: True
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
# Check if a value is equal to NoneType
x = None

x == None
Out[]: True

# However, this is the Pythonic
# or 'idiomatic' way
x is None
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
# Check if a value is equal to NoneType
x = None

x == None
Out[]: True

# However, this is the Pythonic
# or 'idiomatic' way
x is None
Out[]: True
```

More Python

`list`, `set`, `dict` comprehensions

`False`, `0`, `True`, `1`

`id()`, `is`, `is not`

`del`

`del` removes data, so you cannot access it anymore.

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
subjects = ['Math', 'History', 'English', 'Science']

del subjects[2]
subjects
Out[]:
```

PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES PRELIMINARY SLIDES

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
subjects = ['Math', 'History', 'English', 'Science']

del subjects[2]
subjects
Out[]: ['Math', 'History', 'Science']
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
subjects = ['Math', 'History', 'English', 'Science']

del subjects[2]
subjects
Out[]: ['Math', 'History', 'Science']

# What's the difference between del, .remove() and .pop()?
# .remove() removes the first matching value, not a
# specific index

# del removes the item at a specific index

# .pop() removes the item at a specific index AND
# returns the item
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
store_d = {
    'store': 'Store D',
    'apples': 0,
    'bananas': 53,
    'kiwis': 4
}

del store_d['apples']
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
store_d = {
    'store': 'Store D',
    'apples': 0,
    'bananas': 53,
    'kiwis': 4
}

del store_d['apples']
Out[]: {'store': 'Store D', 'bananas': 53, 'kiwis': 4}
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
store_d = {
    'store': 'Store D',
    'apples': 0,
    'bananas': 53,
    'kiwis': 4
}

del store_d['apples']
Out[]: {'store': 'Store D', 'bananas': 53, 'kiwis': 4}
# You can also write
# store_d.pop('apples', None)
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
store_d = {
    'store': 'Store D',
    'apples': 0,
    'bananas': 53,
    'kiwis': 4
}

del store_d['apples']
Out[]: {'store': 'Store D', 'bananas': 53, 'kiwis': 4}
# You can also write
# store_d.pop('apples', None)

del store_d
store_d
Out[]:
```

More Python

list, set, dict comprehensions

False, 0, True, 1

id(), is, is not

del

```
store_d = {
    'store': 'Store D',
    'apples': 0,
    'bananas': 53,
    'kiwis': 4
}

del store_d['apples']
Out[]: {'store': 'Store D', 'bananas': 53, 'kiwis': 4}
# You can also write
# store_d.pop('apples', None)

del store_d
store_d
Out[]: Error
```

What questions do you have?

Homework

https://journ233.github.io