

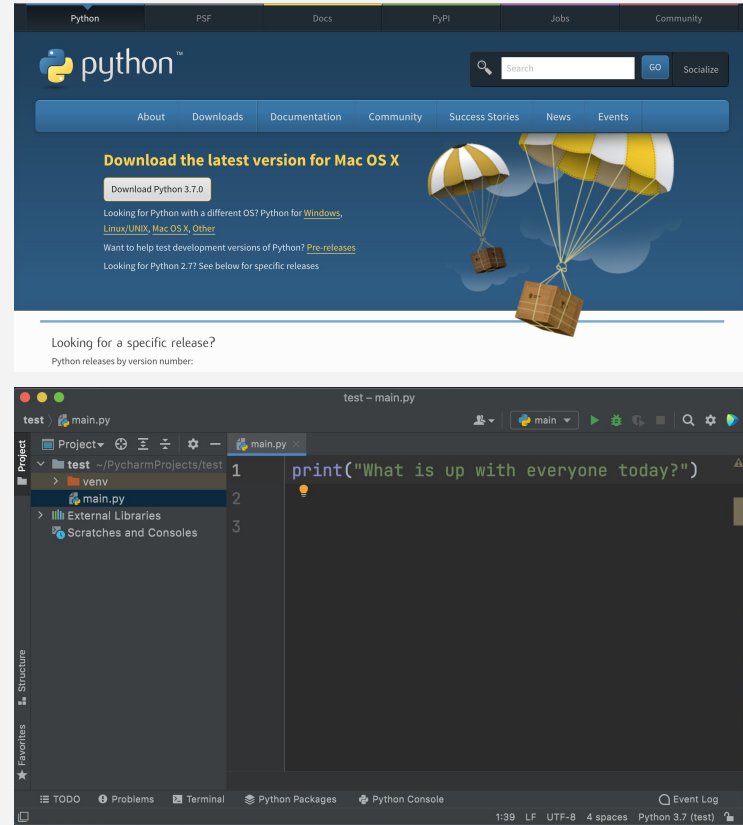
# CS 110

# Python Basics, Printing, Input

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# Did you setup your workspace?

- Did you download python 3?
- Did you download PyCharm?



# Announcements

- Prep problems 1 and 2
- Group seating will begin on Friday
- Gradescope for attendance

# The print function

- This function sends characters (strings) to **standard output**
- By default, the **standard output** of a python program run with the Mu editor goes to the console

# The print function

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```
print('some characters')
```



some characters

# Your 'first' program

Write a program that simply prints out

**Hi Students!**

# Multiple prints

What precisely would this program print out? Are the words on separate lines, or all on one?

```
print('Are')  
print('You')  
print('In')  
print('College?')
```

# The next line

- By default, the print function sends the output cursor to the next line after printing



# The next line

- By default, the print function sends the output cursor to the next line after printing

**Code**

**Standard Output**

# The next line

- By default, the print function sends the output cursor to the next line after printing

**Code**

```
print('Are')
```

**Standard Output**

Are



# The next line

- By default, the print function sends the output cursor to the next line after printing

## Code

```
print('Are')  
print('You')
```

## Standard Output

```
Are  
You
```

# The next line

- By default, the print function sends the output cursor to the next line after printing

## Code

```
print('Are')  
print('You')  
print('In')
```

## Standard Output

Are  
You  
In

# The next line

- By default, the print function sends the output cursor to the next line after printing

## Code

## Standard Output

```
print('Are')
print('You')
print('In')
print('College?')
```

Are  
You  
In  
College

# What will this do?

- Will this work in python?
- If so, what will it print? If not, why?

```
print( 'Are  
You  
In  
College? ' )
```

# What will this do?

- Will this work in python?
- If so, what will it print? If not, why?

```
print(' 'Are  
You  
In  
College? ' ' ' )
```

# Multiple line strings

- You can use a triple-quote to create a string that has multiple lines
- These two programs produce the same output

```
print('Are')  
print('You')  
print('In')  
print('College?')
```

```
print('''Are  
You  
In  
College?''')
```



# Write a program

Write a simple program that prints the following output the the python console

```
He said, "What is up?"  
Joe's friend didn't reply.
```

# Types of quotes

- You can use either single-quotes or double-quotes for printing in python
- You can use single-quotes in double-quoted strings, and vice-versa

```
print('He said, "What is up?"')
```

```
print("Joe's friend didn't reply.")
```

# Write a program

What about printing this?

```
He said, "What's up?"
```

```
Joe's friend said, "Not much."
```

# Song Lyrics

- Write a program named `living.py` that prints the following song lyrics:

```
There's a difference in living and living well.
```

```
You can't have it all all by yourself.
```

```
Something's always missing 'till you share it with someone else.
```

- Submit to the gradescope assignment named **living.py**
- Make sure it passes the one test case!

# Variables

- We can assign names to particular values in our program
- When we give a value a name, this is called assigning a **variable**

What does it print?

```
first_name = 'Kevin'  
last_name = 'McCallister'  
print(first_name, last_name)
```

# Announcements

- Groups and seating
- Videos for online component
- Prep Problems

Which program prints something different than the others?

```
first_name = 'Kevin'  
last_name = 'McCallister'  
print(first_name, last_name)
```

**A**

```
first_name = 'Kevin '  
print(first_name, ' McCallister')
```

**B**

```
print('Kevin', 'McCallister')
```

**C**

```
print('Kevin McCallister')
```

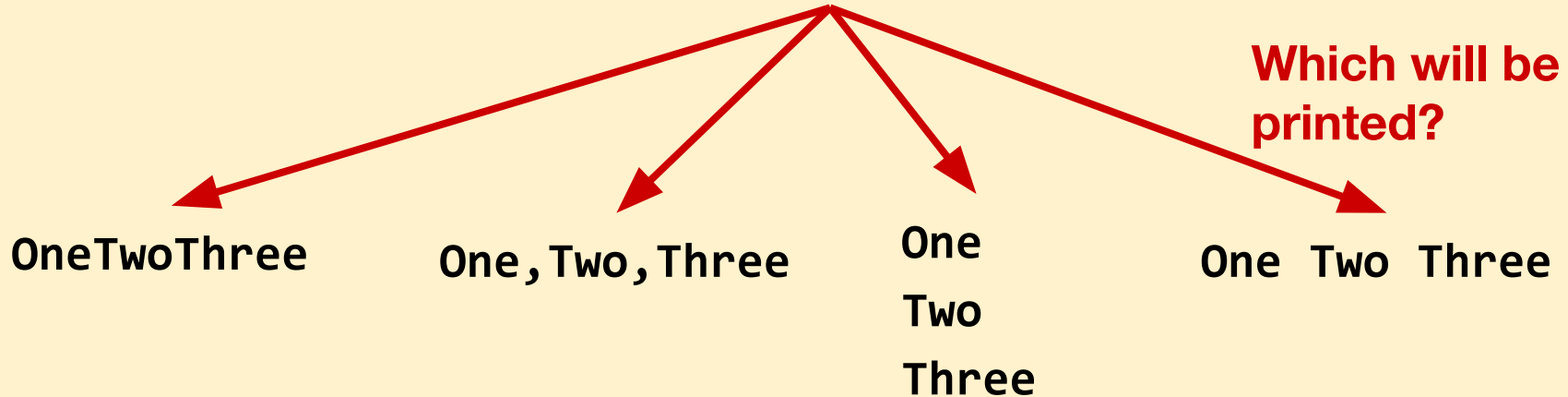
**D**



# Using the Comma

- You can put multiple strings in a single call to the print function
- One way to do this is by separating them with commas
- For example:

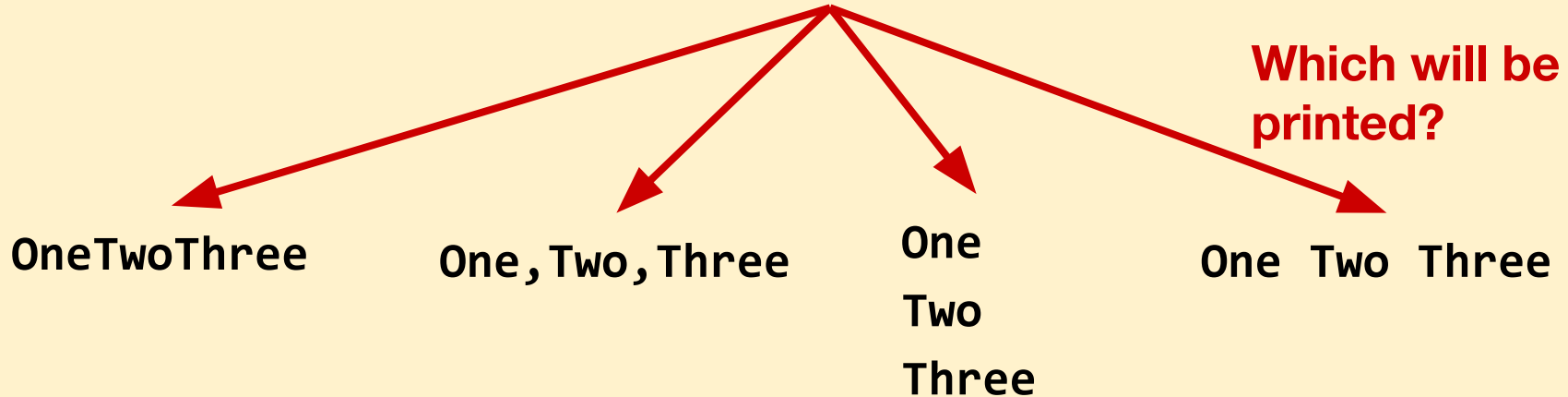
```
print('One', 'Two', 'Three')
```



# Using the plus (concatenation)

- Can also combine strings with the plus symbol
- This is referred to as ***string concatenation***
- For example:

```
print('One' + 'Two' + 'Three')
```



What will this print out?

```
name = 'Jim'
```

```
age = '35'
```

```
print('Hello ' + name)
```

```
print('you are', age, 'years old')
```

# The `input()` function

- The `input()` function is the second function introduced
  - The first one being `print()`
- The input function allows the programmer to read in a value from the user
- Now, we can make an interactive program!

Change so that the user can customize the input

```
name = 'Jim'  
age = '35'  
print('Hello ' + name)  
print('you are', age, 'years old')
```

Change so that the user can customize the input

```
name = input('What is your name? ')
age = input('How old are you? ')
print('Hello ' + name)
print('you are', age, 'years old')
```

# Escape Sequences

- We've seen several **escape sequences** so far
- An escape sequence is a sequence of characters that produces a particular character within a string
  - `\'`    `\"`    What do these produce?

# Escape Sequences

- We've seen several **escape sequences** so far
- An escape sequence is a sequence of characters that produces a particular character within a string
  - `\'`    `\"`    What do these produce?
  - And now: `\n`



# What is the difference?

```
name = input('What is your name? ')
age = input('How old are you? ')
print('Hello ' + name)
print('you are', age, 'years old')
```

```
name = input('What is your name?\n')
age = input('How old are you?\n')
print('Hello ' + name)
print('you are', age, 'years old')
```