

CS 110

Python Basics, Printing, Input

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Did you setup your workspace?

- Did you download Python 3?
- Did you download VS Code or PyCharm (or Mu)?

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 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

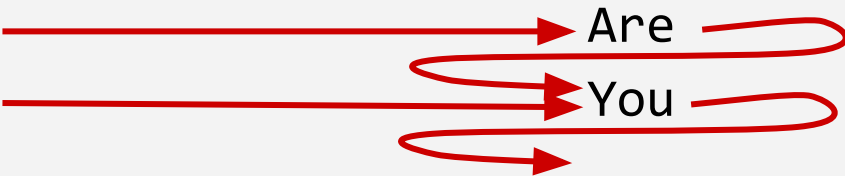
- By default, the print function sends the output cursor to the next line after printing

Code

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

Standard Output

Are
You



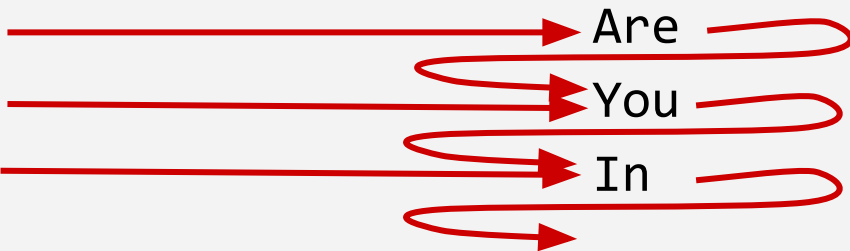
The next line

- 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 diagram illustrates the execution of the code. Three horizontal red arrows point from the code lines to the output. Each arrow has a red loop that returns to the start of the line, indicating the cursor moves to the next line. A final arrow points down from the third line, indicating the cursor moves to the next line after the last print statement.

The next line

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

Code

Standard Output

The diagram illustrates the flow of data from the code to the standard output. It consists of two columns: 'Code' and 'Standard Output'. The code column contains four lines of Python code: `print('Are')`, `print('You')`, `print('In')`, and `print('College?')`. The standard output column contains the corresponding printed text: 'Are', 'You', 'In', and 'College'. Red arrows show the mapping from each line of code to its output. For the first three lines, the arrows are straight horizontal lines. For the fourth line, the arrow is a long horizontal line that ends in a loop, indicating that the cursor moves to the next line after printing 'College'. Additionally, there are curved red arrows between the output lines, showing the sequence of output from one line to the next.

```
print('Are') → Are
print('You') → You
print('In') → In
print('College?') → 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**
- 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)
```

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

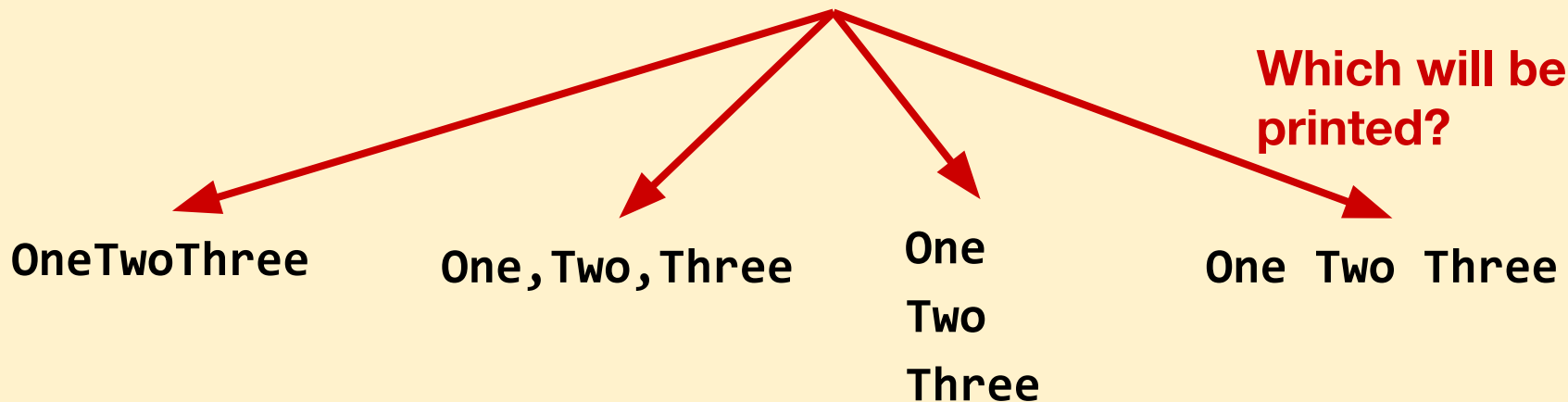
```
print('Kevin McCallister')
```

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:

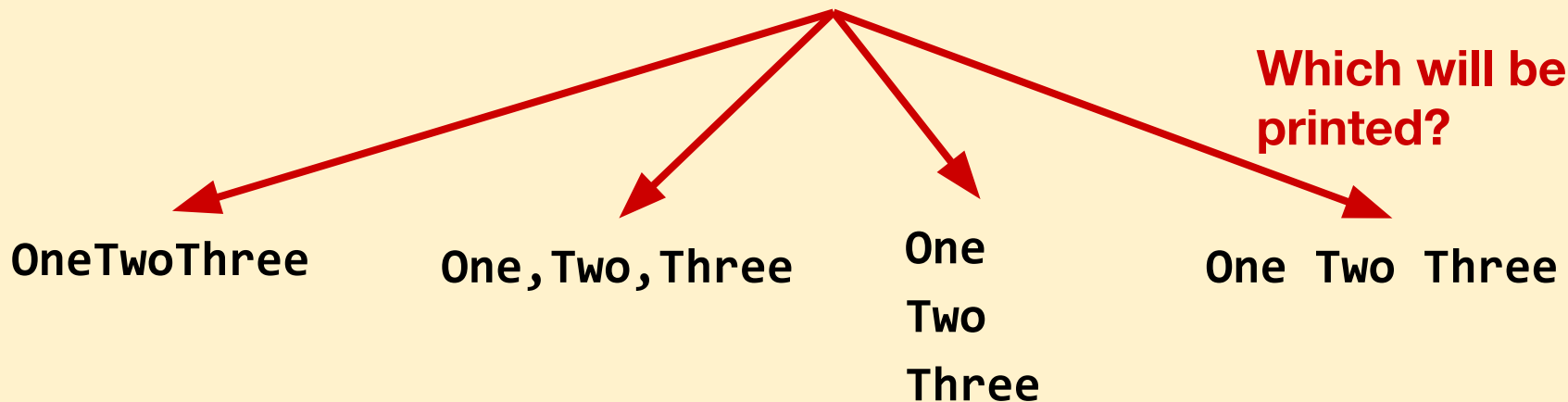
```
print('One', 'Two', 'Three')
```



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')
```