Python!!!

Code Girls 2021-22

What is Python?

- A popular high level programming language
    - Known for its simple syntax that is similar to the English language
- web development (server-side),
- software development
- mathematics
- system scripting

Downloading Python

- Go to https://www.python.org/downloads/

  - Click the big download button!

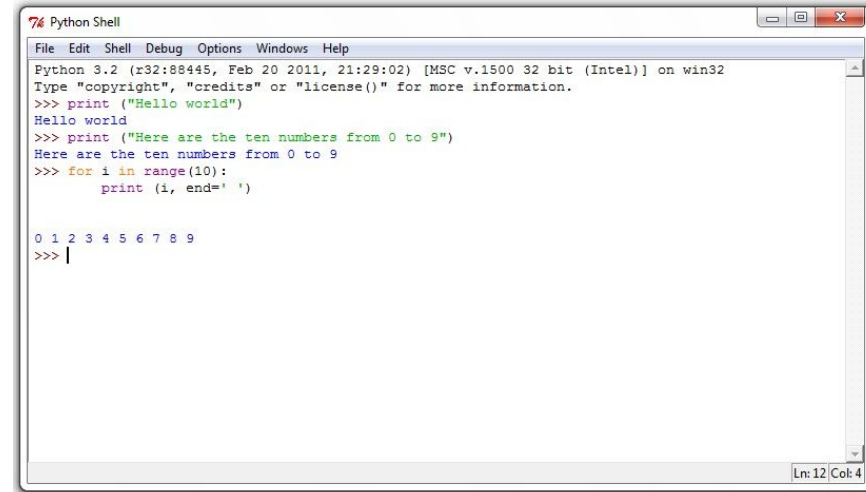 - Follow the instructions

OR

- Go to repl.it and use Python

Using IDLE

- Opening IDLE will open the Python Shell
  - You can use this to try out some short blocks of code
- In the Shell, go to **File → New File**, and it will open up a module where you can code and save your programs
- Go to **Run → Run Module** to test your code, and it will run in the Shell

Basic Syntax: Lines and Tabs

- Lines are used to separate each statement
  - Cannot put two statements that perform different tasks on the same line
- Tabs are used to group lines of code
  - Lines that are indented the same amount are grouped in the same block

```python
print(1)
print(1 + 1)
print(3 * 1 + 2)
print(3 * (1 + 2))

if 2 > 1:
    print("One is the loneliest number")
else:
    print('Two is the lonliest number?')
```

Basic Syntax: Reserved Words

Python has some reserved keywords that can only be used in certain contexts and not as variables

and	exec	not
assert	finally	or
break	for	pass
class	from	print
continue	global	raise
def	if	return
del	import	try
elif	in	while
else	is	with
except	lambda	yield

Comments

Used to document code!

- # for single line comments
- Begin and end multi-line comments with """"


```
pyprogram.py - D:\python\pyprogram.py (3.8.1)
File  Edit  Format  Run  Options  Window  Help
# Single line comment

print('Hello Stechies')

'''
Python program to explain
multiple line comment
print('Hello')
'''

"""
Python program to explain
multiple line comment
print('Hello')
"""

print('Hello Stechies')
```

Single-line Comment

Multi-line Comments

Variables

Python has variables as well.

● Simply use the assignment operator (=) to assign values


```
1    # Declare a variable and initialize it
2    f = 0
3    print(f)
4    # re-declaring the variable works
5    f = 'guru99'
6    print(f)
7
8
9
10
11
12
```

Run Python5.1

```
"C:\Users\DK...e                         thon Test\Py
5/PythonC   e5/
0
guru99
```

you can re-declare the variables, even-after if it is declared once. it works fine

Math Operators

They work just like regular math! With a few extras.

Name	Symbol
Addition	+
Subtraction	-
Multiplication	*
Division	/
Modulus	%
Exponentiation	**
Floor Division	//

```
Python 3.6.1 Shell                                    —    □    ✕
File  Edit  Shell  Debug  Options  Window  Help
>>> x = 5
>>> y = 2
>>> x + y #Addition Operator
7
>>> x - y #Subtraction Operator
3
>>> x * y #Multiplication Operator
10
>>> x / y #Division Operator
2.5
>>> x % y #Modulus Operator
1
>>> x // y #Floor Division Operator
2
>>> x ** y #Exponent Operator: x^y
25
                                              Ln: 19  Col: 4
```
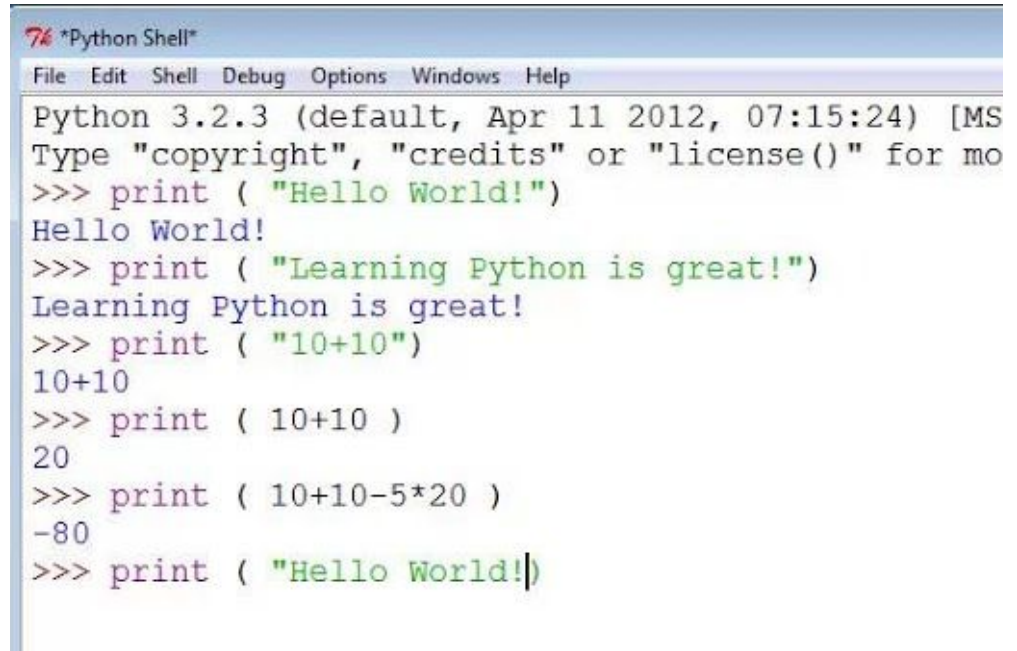
Print Statements

What the user will see the program output
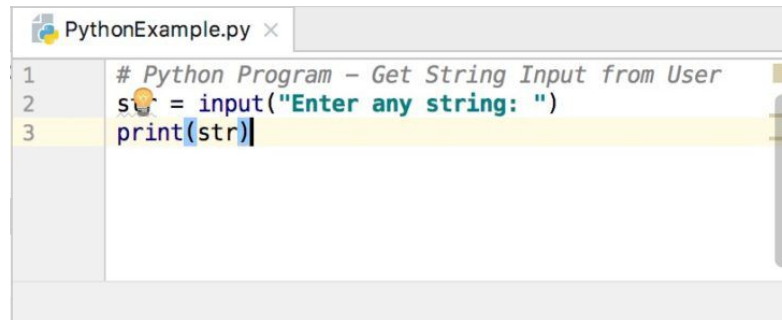
print("Hello World!")

print(variableName)

Input statements

A way that the user can interact with the program

- **input("Enter a number:")** will print **Enter a number:** and accept user input
- To actually use the input, we have to assign a variable to the input
- **num = input("Enter a number: ")**
- Inputs always default to a string, so the variable **num** won't be actually be a number yet (but we'll deal with that next time!)

```
PythonExample.py  ×
1    # Python Program — Get String Input from User
2    str = input("Enter any string: ")
3    print(str)
```

Examples in Repl.it

Replit link: https://replit.com/@CodeGirls1/21-22-Python-Lecture-1?v=1

Acknowledgments