

Intro to Python

Introduction

Front End, Back End and Data Stores
Python is an Interpreted Programming Language
Frameworks
White Spaces
.py extension
Python 2 vs Python 3
Functions

Lesson 1 - Version

```
python3 --version
```

Lesson 2 - Shell

```
python3  
  
message = "hello world"  
  
print(message)  
  
exit()
```

Exit = Control - D or exit()

Lesson 3 - PIP

```
pip3 --version  
  
sudo apt install pip3  
  
pip3 list
```

Lesson 4 - Modules

```
import entire module — import module  
    module.function()  
import specific function from module — from module import function
```

```
function()
import random

from time import sleep

x = random.randint(0,10)
print (x)
sleep(1)

x = random.randint(0,10)
print(x)
sleep(1)

x = random.randint(0,10)
print(x)
sleep(1)
```

Lesson 5 - Comments

```
#this is a comment

"""
a
multiline
comment
"""
```

Lesson 6 - Variables, Types, Print and Concatenation

```
string_var = "Hello World"

num_var = 66

print(string_var)

print(num_var)

print(num_var + 10)

print(string_var + " – this is cool")
```

```
print(string_var + str(num_var))

print ((string_var) + " is a " + str(type(string_var)))

print (str(num_var) + " is a " + str(type(num_var)))
```

Lesson 7 - If / Else Statements

Conditionals — <, >, <=, >=, ==, !=
Operator — and, or

```
from random import randint

random_int = randint(0,100)
#random_int = 1000

if random_int < 50:
    print(random_int, "is under 50")
elif random_int > 50 and random_int <= 100:
    print(random_int, "is under 100")
else:
    print (random_int, "PROBLEM")
```

Lesson 8 - Lists

add to — *list.append("x")*
remove from — *list.remove("x")*
sort list — *list.sort()*
reverse sort list — *list.sort(reverse=True)*
for x loop

```
list = ["bob", "sue", "tim", "fred"]

print(list)

list.append("tommy")

print(list)

list.remove("sue")
```

```
print(list)

list.sort()

print(list)

list.sort(reverse=True)

print(list)

for x in list:
    print(x)

string = ""
for x in list:
    string = (string) + (x) + (" ")

print(string)
```

Lesson 9 - Dictionary

- add to — dict["new key"] = x
- modify — dict["key"] = x
- remove from — dict.pop("key")
- reading from
- for x, y loop

```
dict = {"name":"bob","age":17,"size":"large"}

print(dict)

dict["grade"] = 11

print(dict)

dict.pop("age")

print(dict)
```

```
print(dict["name"])

for key, value in dict.items():
    print(key,": ", value)

for x, y in dict.items():
    print(x, y)
```

Lesson 10 -While Loops

```
import random

x = 1

y = random.randint(1,9)

while x < 10:
    print (x)
    x += 1

x = 1
while x <= 10:
    print (x)
    x += 1

x = 1
while x <= 10:
    print (x)
    if x == y:
        print("WINNER")
        break
    x += 1
```

Lesson 11 - Write to Files

```
file = open("class.html", "w")
ascii_text = ("This is\t\t text that is\n formatted for\n text viewers\n\n")
file.write(ascii_text)
```

```
file.close()

file = open("class.html", "a")
html_text = ("<p>This is <strong>text</strong> that has been</p><p>formatted for
html</p>")
file.write(html_text)
file.close()
```

Lesson 12 - Read from Files

```
user.txt
bob, 12, large
sue, 22, small
fred, 20, medium
patty, 15, small
tim, 16, medium
sandra, 11, large
```

```
file = open("user.txt", "r")
file = file.readlines()

print(file)

for x in file:
    print(x)

query = "large"

for x in file:
    if query in x:
        x = x.split(",")
        print("Name:", x[0], "age:", x[1], "shirt size:", x[2])
```