

- **Python for Data Science , AI & Development**
- Labs available on
- <https://github.com/SWAROOPNC/Learning-Space>
- And Recommended to do ipynb notebooks on Watson Studio
- **Week 1 : Python Basics**
- Basics of Python
  - Data types
    - Integers
    - Real numbers
    - strings
  - Use of expressions in mathematical operations
  - Store values in variables
  - Manipulating strings
- **About the Course** 
- **Types**
- Video 3 min 

- Practice Quiz : Types 
- 0
- = Int
  - as there is no decimal, number type int.
  - also use type function to verify it
- 3.12323
- = Float
- int(3.99)
- = 4 Wrong
- = 3 Right
- if you cast float to integer, conversion truncates towards zero, i.e. just get rid of numbers after decimal place
- **Expressions and Variables**
- Video 3 min 

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- Lab: Your First Program, Types, Expressions, and Variables ✓
  - PY0101EN-1-1-  
Write\_your\_first\_python\_code.pdf
  - Raw file [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%201/PY0101EN-1-1-Write\\_your\\_first\\_python\\_code.ipynb](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%201/PY0101EN-1-1-Write_your_first_python_code.ipynb)
  - Practice Quiz : Expressions and Variables ✓
  - Covered in lab PDF
  - $x=4/2$
  - = 2
  - result is float
  - String Operations
  - Video 3 min ✗

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- Hands-On Lab: Strings
  - Raw ipynb : <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%201/PY0101EN-1-2-Strings.ipynb>

- Practice Quiz 
- Covered in lab
- Module 1 Graded Quiz 
- 
- Given myvar = 'hello' , how would you return myvar as uppercase?
  - myvar.upper()
  - str(1)+str(1)
  - '11'
  - integers are cast to a string, and the strings are concatenated
- type of the variable x after the following: x=1/1
  - float
  - in Python 3, regular division always results in a float
- Week 1 Completed 
-

- Python for Data Science
- **Week 2 : Python Data Structures**
- **Lists and Tuple**
- List and Tuples
- Video 8 min 

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- Hands-On Lab: Lists
  - Raw ipynb
  - <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%202/PY0101EN-2-2-Lists.ipynb>

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- Hands-On Lab: Tuples
  - Raw ipynb
  - <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%202/PY0101EN-2-1-Tuples.ipynb>

- Practice Quiz : Lists and Tuples
- tuple A=(1,2,3,4,5).
- A[1:4]:
- (2,3,4)
- 
- A = [1] after following operation:  
A.append([2,3,4,5])
- A = [1,[2,3,4,5]]
- So 2
- Append only adds one element to the list.
- 
- "Hello Mike".split(  
• ["Hello","Mike"]
- The method split separates a string into a list based on the argument. If there is no argument as in this case the string is split using spaces

- **Dictionaries**
- Dictionaries : Video 2 min 

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- Hands on labs : Dictionaries
  - <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%202/PY0101EN-2-4-Dictionaries.ipynb>
  - Practice Quiz : Dictionaries 
  - Covered in labs

- Sets
- Sets Video 5 min 

- Module 2 : Graded Quiz
- 
- tuple A=((11,12),[21,22]), that contains a tuple and list.
- 
- after applying the following method, L.append(['a','b']), the following list will only be one element longer.
  - while extend adds as many elements into it
  -
- If A is a list what does the following syntax do: B=A[:] ?
  - variable B references a new copy or clone of the original list A
- dictionary: { "The Bodyguard":"1992", "Saturday Night Fever":"1977" }
  - Keys : The Bodyguard , Saturday Night Fever
  - Values 1992 , 1977

- Hands on Labs : Sets
- Raw ipynb
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%202/PY0101EN-2-3-Sets.ipynb>

- Practice Quiz : Sets
- What method do you use to add an element to a set
  - Add
- {'a','b'} &{'a'}
  - = {a}
  - intersection

End of Week 2 :

- **Week 3 : Python Programming Fundamentals**
- **Conditions & Branching**
- Conditions and Branching video  
10 min 
- False as equality operator is case sensitive
- in the video what would be the result if we set the variable age as follows: age= -10
  - go see Meat Loaf
  - move on
- True or False
  - True
  - an or statement is only False if all the Boolean values are False
- End of Conditions and Branching
- 
- 

- **Loops**
- Loops Video 6 min 

- Hands on Lab : Conditions & Branching
- Raw ipynb
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%203/PY0101EN-3-1-Conditions.ipynb>
- Practice Quiz : Conditions & Branching
- result of the following: 1=2
  - SyntaxError:can't assign to literal
- 5!=5
  - False
- 'a'=='A'

- Hands on Labs : Loop
- Raw ipynb
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%203/PY0101EN-3-2-Loops.ipynb>
- Practice Quiz : Loops
- Covered in Labs

- Functions
- Video 13 min 

- Hands on lab : Functions
- How do I learn more about the pre-defined functions in Python?  
¶
- We will be introducing a variety of pre-defined functions to you as you learn more about Python. There are just too many functions, so there's no way we can teach them all in one sitting. But if you'd like to take a quick peek, here's a short reference card for some of the commonly-used pre-defined functions:
- Python 3.6 Quick Reference Sheet
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%203/Python\\_reference\\_sheet.pdf?utm\\_medium=Exinfluencer&utm\\_source=Exinfluencer&utm\\_content=000026UJ&utm\\_term=10006555&utm\\_id=NA-SkillsNetwork-Channel-SkillsNetworkCoursesIBMDriverSkillsNetworkPY0101ENSkillsNetwork19487395-2021-01-01](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%203/Python_reference_sheet.pdf?utm_medium=Exinfluencer&utm_source=Exinfluencer&utm_content=000026UJ&utm_term=10006555&utm_id=NA-SkillsNetwork-Channel-SkillsNetworkCoursesIBMDriverSkillsNetworkPY0101ENSkillsNetwork19487395-2021-01-01)

## Python 3.6 Quick Reference Sheet

### Common Syntax Structures

<b>Assignment Statement</b>	<code>var = exp</code>
<b>Console Input/Output</b>	
<code>help()</code>	Invoke interactive help
<code>help(m)</code>	Display help for module <i>m</i>
<code>help(f)</code>	Display help for function <i>f</i>
<code>dir(m)</code>	Display names in module <i>m</i>
<b>Selection</b>	
if ( <i>boolean_exp</i> ):	
stmt ...	
[elif ( <i>boolean_exp</i> ):	
stmt ...]	
[else:	
stmt ...]	
<b>Small Operator Precedence Table</b>	
<code>func_name(args, ...)</code>	Function call
<code>x[index : index]</code>	Slicing
<code>x[index]</code>	Indexing
<code>x.attribute</code>	Attribute reference
<code>**</code>	Exponentiation
<code>*, /, %</code>	Multiply, divide, mod
<code>+, -</code>	Add, subtract
<code>&gt;, &lt;, &lt;=, &gt;=, !=, ==</code>	Comparison
<code>in, not in</code>	Membership tests
<code>not, and, or</code>	Boolean operators
	NOT, AND, OR
<b>Module Import</b>	
<code>import module_name</code>	
<code>from module_name import name, ...</code>	
<code>from module_name import *</code>	

### Common Built-in Functions

Function	Returns
<code>abs(x)</code>	Absolute value of <i>x</i>
<code>dict()</code>	Empty dictionary, eg: <i>d</i> = <code>dict()</code>
<code>float(x)</code>	int or string <i>x</i> as float
<code>id(obj)</code>	memory addr of <i>obj</i>
<code>int(x)</code>	float or string <i>x</i> as int
<code>len(s)</code>	Number of items in sequence <i>s</i>
<code>list()</code>	Empty list, eg: <i>m</i> = <code>list()</code>
<code>max(s)</code>	Maximum value of items in <i>s</i>
<code>min(s)</code>	Minimum value of items in <i>s</i>
<code>open(f)</code>	Open filename <i>f</i> for input
<code>ord(c)</code>	ASCII code of <i>c</i>
<code>pow(x,y)</code>	<i>x</i> ** <i>y</i>
<code>range(x)</code>	Return a sequence of <i>x</i> as range(0, <i>x</i> )
<code>round(x,n)</code>	float <i>x</i> rounded to <i>n</i> places
<code>str(obj)</code>	str representation of <i>obj</i>
<code>sum(s)</code>	Sum of numeric sequence <i>s</i>
<code>tuple(items)</code>	tuple of <i>items</i>
<code>type(obj)</code>	Data type of <i>obj</i>

### Common Math Module Functions

Function	Returns
<code>ceil(x)</code>	Smallest whole nbr >= <i>x</i>
<code>cos(x)</code>	Cosine of <i>x</i> radians
<code>degrees(x)</code>	<i>x</i> radians in degrees
<code>radians(x)</code>	<i>x</i> degrees in radians
<code>exp(x)</code>	<i>e</i> ** <i>x</i>
<code>floor(x)</code>	Largest whole nbr <= <i>x</i>
<code>hypot(x, y)</code>	$\sqrt{x^2 + y^2}$
<code>log(x [, base])</code>	Log of <i>x</i> to <i>base</i> or natural log if base not given
<code>pow(x,y)</code>	<i>x</i> ** <i>y</i>
<code>sin(x)</code>	Sine of <i>x</i> radians
<code>sqrt(x)</code>	Positive square root of <i>x</i>
<code>tan(x)</code>	Tangent of <i>x</i> radians
<code>pi</code>	Math constant pi to 15 sig figs
<code>e</code>	Math constant e to 15 sig figs

## Common String Methods

S.method()	Returns (str unless noted)
capitalize	S with first char uppercase
center(w)	S centered in str w chars wide
count(sub)	int nbr of non-overlapping occurrences of sub in S
find(sub)	int index of first occurrence of sub in S or -1 if not found
isdigit()	bool True if S is all digit chars, False otherwise
islower()	bool True if S is all lower/upper case chars, False otherwise
isupper()	bool True if S is all upper/upper case chars, False otherwise
join(seq)	All items in seq concatenated into a str, delimited by S
lower()	Lower/upper case copy of S
upper()	Upper/upper case copy of S
lstrip()	Copy of S with leading/trailing whitespace removed, or both
rstrip()	Copy of S with trailing whitespace removed, or both
split(sep)	List of tokens in S, delimited by sep; if sep not given, delimiter is any whitespace

## Common List Methods

L.method()	Result/Returns
append(obj)	Append obj to end of L
count(obj)	Returns int nbr of occurrences of obj in L
index(obj)	Returns index of first occurrence of obj in L; raises ValueError if obj not in L
int(index)	int index of first occurrence of sub in L; raises ValueError if obj not in L
pop([index])	Returns item at specified index or item at end of L if index not given; raises IndexError if L is empty or index is out of range
remove(obj)	Removes first occurrence of obj from L; raises ValueError if obj is not in L
reverse()	Reverses L in place
sort()	Sorts L in place

## Common File Methods

F.method()	Result>Returns
read([n])	Return str of next n chars from F, or up to EOF if n not given
readline([n])	Return str up to next newline, or at most n chars if specified
readlines()	Return list of all lines in F, where each item is a line
write(s)	Write str s to F
writelines(L)	Write all str in seq L to F
close()	Closes the file

**Other Syntax**

**Hold window for user keystroke to close:**  
raw\_input("Press <Enter> to quit.")

**Prevent execution on import:**  
if \_\_name\_\_ == "\_\_main\_\_":  
 main()

**Displayable ASCII Characters**

32	SP	48	0	64	@	80	P	96	`	112	P
33	!	49	1	65	A	81	Q	97	a	113	q
34	"	50	2	66	B	82	R	98	b	114	r
35	#	51	3	67	C	83	S	99	c	115	s
36	\$	52	4	68	D	84	T	100	d	116	t
37	%	53	5	69	E	85	U	101	e	117	u
38	&	54	6	70	F	86	V	102	f	118	v
39	'	55	7	71	G	87	W	103	g	119	w
40	(	56	8	72	H	88	X	104	h	120	x
41	)	57	9	73	I	89	Y	105	i	121	y
42	*	58	:	74	J	90	Z	105	j	122	z

**Common Tuple Methods**

T.method()	Returns
count(obj)	Returns nbr of occurrences of obj in T
index(obj)	Returns index of first occurrence of obj in T; raises ValueError if obj is not in T

**Common Dictionary Methods**

D.method()	Result>Returns
clear()	Remove all items from D
get(k [,val])	Return D[k] if k in D, else val
has_key(k)	Return True if k in D, else False
items()	Return list of key-value pairs in D; each list item is 2-item tuple
keys()	Return list of D's keys
pop(k, [val])	Remove key k, return mapped value or val if k not in D
values()	Return list of D's values

Formatting Numbers as Strings	
<b>Syntax:</b> "format_spec" % numeric_exp	
<b>format_spec</b> : % width.precision type	
• width (optional): align in number of columns specified; negative to left-align, precede with 0 to zero-fill	
• precision (optional): show specified digits of precision for floats; 6 is default	
• type (required): d (decimal int), f (float), s (string), e (float – exponential notation)	
• Examples for x = 123, y = 456.789	
"%6d" % x → ... 123 "%06d"	
% x → 000123 "%8.2f % y > .456.79 "%8.e" % y -> 4.57e+02	
"-8s" "%Hello" -> Hello ...	

'\0' = 0, '\t' = 9, '\n' = 10, '\DEL'

- Practice Quiz : Functions
- What is the value of list L after the following code segment is run :
  - L=[1,3,2]
  - sorted(L)
- L:[1,3,2] 
- L:[1,2,3] 
- sorted is a function and returns a new list, it does not change the list L
- End of functions
- **Exception Handling**
- Exception Handling Video 3 min 

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- Hands on Lab : Exception Handling
  - Raw ipynb
  - <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%203/3-1.2ExceptionHandling.ipynb>
  - There are many more exceptions that are built into Python, here is a list of them <https://docs.python.org/3/library/exceptions.html>
  - Practice Quiz : Exception Handling
  - Covered
  - **Objects and Classes**
  - Objects and Classes 10 min 

- 
- Hands on Labs : Objects and Classes
  - 
  - 
  - **Raw ipynb : <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%203/PY0101EN-3-4-Classes.ipynb>**
  - Practice Quiz :
  - Covered
  - 
  - **Module 3 : Graded Quiz**
  - **100%**
  - **End of Week 3**
  -

- Reading & Writing Files with Open
- Reading Files with Open Video 3 min 

- Hands On Labs : Writing Files with Open
- Raw ipynb
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%204/PY0101EN-4-2-WriteFile.ipynb>
- Practice Quiz
- Covered

- Hands On Lab : Read Files with Open
- Raw ipynb file
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%204/PY0101EN-4-1-ReadFile.ipynb>
- 
- Writing Files with Open : Video 2 min Video 

- Pandas
- Loading Data with Pandas
- Video 3 min 

- Pandas : Working with and Saving Data
- Video 3 min 

- Hands on Labs : Pandas with Watson Studio
- Raw ipynb :
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%204/PY0101EN-4-3-LoadData.ipynb?utm\\_medium=Exinfluencer&utm\\_source=Exinfluencer&utm\\_content=000026UJ&utm\\_term=1000655&utm\\_id=NA-SkillsNetwork-wwwcourseraorg-SkillsNetworkCoursesIBMDeveloperSkillsNetworkPY0101ENSkillNetwork19487395-2021-01-01](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%204/PY0101EN-4-3-LoadData.ipynb?utm_medium=Exinfluencer&utm_source=Exinfluencer&utm_content=000026UJ&utm_term=1000655&utm_id=NA-SkillsNetwork-wwwcourseraorg-SkillsNetworkCoursesIBMDeveloperSkillsNetworkPY0101ENSkillNetwork19487395-2021-01-01)

- Practice Quiz : Pandas

1. What python object do you cast to a dataframe?

- set  
 tuple   
 dictionary 

 Incorrect

incorrect, think of a Python object that has keys and values

3. What is the proper way to load a CSV file using pandas?

- pandas.from\_csv('data.csv')  
 pandas.load\_csv('data.csv')  
 pandas.read\_csv('data.csv')  
 pandas.import\_csv('data.csv')

 Correct  
 correct

4. Use this dataframe to answer the question.

0 / 1 point

	Artist	Album	Released	Length	Genre	Music Recording Sales (millions)	Claimed Sales (millions)	Released.1	Soundtrack	Rating
0	Michael Jackson	Thriller	1982	0:42:19	pop, rock, R&B	46.0	65	30-Nov-82	NaN	10.0
1	AC/DC	Back in Black	1980	0:42:11	hard rock	26.1	50	25-Jul-80	NaN	9.5
2	Pink Floyd	The Dark Side of the Moon	1973	0:42:49	progressive rock	24.2	45	01-Mar-73	NaN	9.0
3	Whitney Houston	The Bodyguard	1992	0:57:44	R&B, soul, pop	27.4	44	17-Nov-92	Y	8.5
4	Meat Loaf	Bat Out of Hell	1977	0:46:33	hard rock, progressive rock	20.6	43	21-Oct-77	NaN	8.0
5	Eagles	Their Greatest Hits (1971-1975)	1976	0:43:08	rock, soft rock, folk rock	32.2	42	17-Feb-76	NaN	7.5
6	Bee Gees	Saturday Night Fever	1977	1:15:54	disco	20.6	40	15-Nov-77	Y	7.0
7	Fleetwood Mac	Rumours	1977	0:40:01	soft rock	27.9	40	04-Feb-77	NaN	6.5

How would you select the Genre disco? Select all that apply.

df.iloc[6, 'genre']

df.loc[6, 5]

df.iloc[6, 4]

 **Correct**

correct

  df.loc['Bee Gees', 'Genre']

 **(X) This should not be selected**

incorrect

3	Whitney Houston	The Bodyguard	1992	0:57:44	R&B, soul, pop	27.4	44	17-Nov-92	Y	8.5	
4	Meat Loaf	Bat Out of Hell	1977	0:46:33	hard rock, progressive rock	20.6	43	21-Oct-77	NaN	8.0	
5	Eagles	Their Greatest Hits (1971-1975)	1976	0:43:08	rock, soft rock, folk rock	32.2	42	17-Feb-76	NaN	7.5	
6	Bee Gees	Saturday Night Fever	1977	1:15:54	disco	20.6	40	15-Nov-77	Y	7.0	
7	Fleetwood Mac	Rumours	1977	0:40:01	soft rock	27.9	40	04-Feb-77	NaN	6.5	

Which will NOT evaluate to 20.6? Select all that apply.

df.iloc[4,5]

(X) This should not be selected

incorrect

df.iloc[6,5]

(X) This should not be selected

incorrect

df.loc[4,'Music Recording Sales']

(✓) Correct

correct

df.iloc[6, 'Music Recording Sales (millions)']

(✓) Correct

correct

2	Pink Floyd	The Dark Side of the Moon	1973	0:42:49	progressive rock	24.2	45	01-Mar-73	NaN	9.0
3	Whitney Houston	The Bodyguard	1992	0:57:44	R&B, soul, pop	27.4	44	17-Nov-92	Y	8.5
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7	Fleetwood Mac	Rumours	1977	0:40:01	soft rock	27.9	40	04-Feb-77	NaN	6.5

How do we select Albums The Dark Side of the Moon to Their Greatest Hits (1971-1975)? Select all that apply.

df.iloc[2:5, 'Album']

 **This should not be selected**

incorrect

df.loc[2:5, 'Album']

 **Correct**

correct

df.iloc[2:6, 1]

 **Correct**

correct

df.loc[2:5, 1]

 **This should not be selected**

incorrect

- **NumPy in Python**
- **One Dimensional NumPy**
- **11 min Video** 
- **Two Dimensional NumPy**
- **7 min Video** 

- **Hands On Labs : One Dimensional NumPy**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5-1-Numpy1D.ipynb>
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- **Hands on Lab Two Dimensional NumPy**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5-2-Numpy2D.ipynb>
- **Practice Quiz**
- **Covered**
- **Module 4 Graded Quiz**
- **Covered**
- **End of Week 4**

- **Week 5**
- **Simple APIs**
- **Part 1 Video 5 min** 

- **Part 2 Video 5 min** 
- **Hands-on Lab: Instruction for Speech to Text and Language Translator API Keys**
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN\\_Module5\\_Instructions\\_for\\_Speech\\_to\\_Text\\_and\\_Language\\_Translator\\_API\\_Keys.md.html?origin=www.coursera.org](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN_Module5_Instructions_for_Speech_to_Text_and_Language_Translator_API_Keys.md.html?origin=www.coursera.org)
- **Service Credentials on GitHub**

- **Hands On Lab : Introduction to API**
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/Simple\\_API\\_2\\_v2.ipynb](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/Simple_API_2_v2.ipynb)
- **Hands-On Lab: Watson Speech to Text and Language Translator API**
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5.2\\_API\\_2.ipynb](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDeveloperSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5.2_API_2.ipynb)
- Practice Quiz : Covered
- **REST APIs, Webscraping, and Working with Files**
- **REST APIs & HTTP Requests - Part 1**
- **Video 4 min** 

- REST APIs & HTTP Requests - Part 2
- Video 4 min
- 
- **Hands-on Lab: Access REST APIs & Request HTTP**
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5.3\\_Requests\\_HTTP.ipynb](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5.3_Requests_HTTP.ipynb)
- **Optional : HTML for Webscraping**
- Video 4 min
- **Webscraping**
- Video 4 min
- 
- **Hands on Lab : Webscraping**
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0220EN-SkillsNetwork/labs/>

project/  
WebScraping\_Review\_Lab.ipynb

- Working with Different file formats ( csv, xml , json , xlsx )
- Video 4 min
- Hands on Lab : Working with different file formats
- [https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5.4\\_WorkingWithDifferentFileTypes.ipynb](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/labs/Module%205/PY0101EN-5.4_WorkingWithDifferentFileTypes.ipynb)
- Practice Quiz : REST APIs, Webscraping, and Working with Files
- function of "GET" in HTTP requests
  - Carries the request to the client from the requestor
- Module 5 : Graded Quiz

3. In what data structure do HTTP responses generally return?



What are the 3 parts to a response message?

Start or status line, header, and body

- Python Cheat Sheet
- <https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBMDriverSkillsNetwork-PY0101EN-SkillsNetwork/handouts/Python%20Cheat%20Sheet%20-%20The%20Basics%20Coursera.pdf>

- Final Exam

11. Lists are:

What is a tuple?

- Unordered
- Mutable
- Not indexed
- Not mutable

- A collection that is ordered and changeable
- A collection that is unordered and changeable
- A collection that is ordered and unchangeable

 Correct

16. What is the correct way to sort list 'B' using a method? The result should not return a new list, just change the list 'B'.

- B.sort()
- sorted(B)
- sort(B)
- B.sorted()