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Subject : Data Science

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QNO.1?

Syntax Error

```
>>> print "hello"
```

SyntaxError: Missing parentheses in call to 'print'. Did you mean print("hello")?

Solution:

```
>>> print ("hello")
```

hello

IndexError

```
>>> L1=[1,2,3]
```

```
>>> L1[3]
```

Traceback (most recent call last):

File "<pyshell#3>", line 1, in <module>

```
L1[3]
```

IndexError: list index out of range

Solution:

```
>>> L1 =[1,2,3]
```

```
>>> L1[1]
```

```
2
```

ModuleNotFoundError

```
>>> import notamodule
```

Traceback (most recent call last):

File "<pyshell#7>", line 1, in <module>

```
import notamodule
```

ModuleNotFoundError: No module named 'notamodule'

Solution:

```
>>> import notamodule
```

```
Hello
```

```
>>>
```

KeyError

```
>>> D1={'1':"aa", '2':"bb", '3':"cc"}
```

```
>>> D1['4']
```

Traceback (most recent call last):

```
File "<pyshell#11>", line 1, in <module>
```

```
    D1['4']
```

```
KeyError: '4'
```

Solution:

```
>>> D1['3']
```

```
'cc'
```

```
>>>
```

ImportError

```
>>> from math import cube
```

Traceback (most recent call last):

File "<pyshell#13>", line 1, in <module>

```
from math import cube
```

ImportError: cannot import name 'cube' from 'math' (unknown location)

Solution:

```
>>> from math import *
```

```
>>>
```

StopIteration

```
>>> it=iter([1,2,3])
```

```
>>> next(it)
```

```
1
```

```
>>> next(it)
```

```
2
```

```
>>> next(it)
```

```
3
```

```
>>> next(it)
```

Traceback (most recent call last):

File "<pyshell#20>", line 1, in <module>

```
next(it)
```

StopIteration

```
>>>
```

Solution:

```
>>> it=iter([1,2,3])
```

```
>>> it=iter([1,2,3,4])
```

```
>>> next(it)
```

```
1
```

```
>>> next(it)
```

```
2
```

```
>>> next(it)
```

```
3
```

```
>>> next(it)
```

```
4
```

TypeError

```
>>> '2'+2
```

Traceback (most recent call last):

File "<pyshell#27>", line 1, in <module>

```
'2'+2
```

TypeError: can only concatenate str (not "int") to str

Solution:

```
>>> 2+2
```

```
4
```

```
>>>
```

ValueError

```
>>> int('xyz')
```

Traceback (most recent call last):

File "<pyshell#29>", line 1, in <module>

```
int('xyz')
```

ValueError: invalid literal for int() with base 10: 'xyz'

```
>>>
```

Solution:

```
>>> xyz = 'abc'
```

```
>>>
```

NameError

```
>>> age
```

Traceback (most recent call last):

File "<pyshell#38>", line 1, in <module>

```
age
```

NameError: name 'age' is not defined

```
>>>
```

Solution:

```
>>> age = 'age'
```

```
>>>
```

ZeroDivisionError

```
>>> x=100/0
```

Traceback (most recent call last):

File "<pyshell#40>", line 1, in <module>

```
x=100/0
```

ZeroDivisionError: division by zero

```
>>>
```

Solution:

```
>>> x=100/1
```

```
>>>
```

KeyboardInterrupt

```
>>> name=input('enter your name')
```

KeyboardInterrupt

```
>>>
```

Solution:

```
>>> name=input('enter your name')
```

```
enter your name
```

QNo:2.

Boolean Strings

A string in Python can be tested for truth value.

The return type will be in Boolean value (True or False)

Let's make an example, by first create a new variable and give it a value.

```
my_string = "Hello World"
```

<code>my_string.isalnum()</code>	<code>#check if all char are numbers</code>
<code>my_string.isalpha()</code>	<code>#check if all char in the string are alphabetic</code>
<code>my_string.isdigit()</code>	<code>#test if string contains digits</code>
<code>my_string.istitle()</code>	<code>#test if string contains title words</code>
<code>my_string.isupper()</code>	<code>#test if string contains upper case</code>


```
my_string.islower()          #test if string contains lower case
my_string.isspace()         #test if string contains spaces
my_string.endswith('d')     #test if string ends with a d
my_string.startswith('H')   #test if string starts with H
```

To see what the return value (True or False) will be, simply print it out.

```
my_string="Hello World"
```

```
print my_string.isalnum()   #False
print my_string.isalpha()  #False
print my_string.isdigit()   #False
print my_string.istitle()   #True
print my_string.isupper()   #False
print my_string.islower()   #False
print my_string.isspace()   #False
print my_string.endswith('d') #True
print my_string.startswith('H') #True
```

QNO:3.

String Format in python

Python's `str.format()` method of the string class allows you to do variable substitutions and value formatting. This lets you concatenate elements together within a string through positional formatting.

EXAMPLE

```
print("Sammy the {} has a pet {}".format("shark", "pilot fish"))
```

Output

Sammy the shark has a pet pilot fish!

EXAMPLE :2

```
print("Sammy is a {}, {}, and {} {}".format("happy", "smiling", "blue", "shark"))
```

Output

Sammy is a happy, smiling and blue shark!

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:19e3f0492, Dec 23 2018, 23:09:28) [MSC v.1916 64 bit (AMD64)] on win32
Type "help()", "copyright()", "credits()" or "license()" for more information.
>>> print "hello"
SyntaxError: Missing parentheses in call to 'print'. Did you mean print("hello")?
>>> print ("hello")
hello
>>> l1=[1,2,3]
>>> l1[3]
Traceback (most recent call last):
  File "<pyshell#3>", line 1, in <module>
    l1[3]
IndexError: list index out of range
>>> l1=[1,2,3]
>>> l1[3]
Traceback (most recent call last):
  File "<pyshell#3>", line 1, in <module>
    l1[3]
IndexError: list index out of range
>>> l1[1]
SyntaxError: invalid syntax
>>> l1=[1,2,3]
>>> l1[1]
2
>>> import notamodule
Traceback (most recent call last):
  File "<pyshell#7>", line 1, in <module>
    import notamodule
ModuleNotFoundError: No module named 'notamodule'
>>> import notamodule
Traceback (most recent call last):
  File "<pyshell#7>", line 1, in <module>
    import notamodule
ModuleNotFoundError: No module named 'notamodule'
>>> import notamodule
SyntaxError: invalid syntax
>>> import notamodule
Hello
>>> d1={'1':'aa', '2':'bb', '3':'cc'}
>>> d1['4']
Traceback (most recent call last):
  File "<pyshell#11>", line 1, in <module>
    d1['4']
KeyError: '4'
>>> d1['3']
'cc'
>>> from math import cube
Traceback (most recent call last):
  File "<pyshell#13>", line 1, in <module>
```

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
>>> from math import cube
Traceback (most recent call last):
  File "<pyshell#13>", line 1, in <module>
    from math import cube
ImportError: cannot import name 'cube' from 'math' (unknown location)
>>> from * import notamodule
SyntaxError: invalid syntax
>>> from math import *
>>> it=iter([1,2,3])
>>> next(it)
1
>>> next(it)
2
>>> next(it)
3
>>> next(it)
Traceback (most recent call last):
  File "<pyshell#20>", line 1, in <module>
    next(it)
StopIteration
>>> it=iter([1,2,3])
>>> it=iter([1,2,3,4])
>>> next(it)
1
>>> next(it)
2
>>> next(it)
3
>>> next(it)
4
>>> '2'+2
Traceback (most recent call last):
  File "<pyshell#27>", line 1, in <module>
    '2'+2
TypeError: can only concatenate str (not "int") to str
>>> 2+2
4
>>> int('xyz')
Traceback (most recent call last):
  File "<pyshell#29>", line 1, in <module>
    int('xyz')
ValueError: invalid literal for int() with base 10: 'xyz'
>>> int = xyz
Traceback (most recent call last):
  File "<pyshell#30>", line 1, in <module>
    int = xyz
NameError: name 'xyz' is not defined
```

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
xyz
Traceback (most recent call last):
  File "<pysshell#30>", line 1, in <module>
    int = xyz
NameError: name 'xyz' is not defined
>>> int xyz
SyntaxError: invalid syntax
>>> int 'xyz'
SyntaxError: invalid syntax
>>> xyz
Traceback (most recent call last):
  File "<pysshell#33>", line 1, in <module>
    xyz
NameError: name 'xyz' is not defined
>>> 'xyz'
'xyz'
>>> xyz = 2
>>> xyz = 'xyz'
>>> xyz = 'abc'

>>> age
Traceback (most recent call last):
  File "<pysshell#38>", line 1, in <module>
    age
NameError: name 'age' is not defined
>>> age = 'age'
>>> x=100/0
Traceback (most recent call last):
  File "<pysshell#40>", line 1, in <module>
    x=100/0
ZeroDivisionError: division by zero
>>> x = 0/0
Traceback (most recent call last):
  File "<pysshell#41>", line 1, in <module>
    x = 0/0
ZeroDivisionError: division by zero
>>> x=100/1
>>> name=input('enter your name')
SyntaxError: unexpected indent
>>> name=input('enter your name')
enter your name*c
>>> name=input('enter your name')
enter your name*c
>>> name=input('enter your name')
KeyboardInterrupt
>>> |
>>>
```