

datatypes2

July 7, 2017

```
In [1]: a=23.45  
        int(a)
```

```
Out[1]: 23
```

```
In [2]: int("23.45")
```

```
-----  
ValueError                                Traceback (most recent call last)  
  
  <ipython-input-2-0a57a8b372e3> in <module>()  
----> 1 int("23.45")
```

```
ValueError: invalid literal for int() with base 10: '23.45'
```

```
In [3]: int("1234")
```

```
Out[3]: 1234
```

```
In [4]: b=int("123")  
        print type(b)
```

```
<type 'int'>
```

```
In [5]: a="123"  
        b=int(a)  
        print type(a)  
        print type(b)  
        print a  
        print b
```

```
<type 'str'>
```

```
<type 'int'>
```

```
123
```

```
123
```

```
In [6]: a="12.34"
        print int(a)
```

ValueError

Traceback (most recent call last)

```
<ipython-input-6-32282fbf9688> in <module>()
      1 a="12.34"
----> 2 print int(a)
```

ValueError: invalid literal for int() with base 10: '12.34'

```
In [7]: int(23.45)
```

```
Out[7]: 23
```

```
In [8]: int?
```

```
In [9]: print int()
```

```
0
```

```
In [10]: int(23.45)
```

```
Out[10]: 23
```

```
In [11]: int("23.45",base=12)
```

ValueError

Traceback (most recent call last)

```
<ipython-input-11-75338dd26d72> in <module>()
----> 1 int("23.45",base=12)
```

ValueError: invalid literal for int() with base 12: '23.45'

```
In [12]: a='23.456'
        b=float(a)
        print b, type(b)
        c=int(b)
        print c, type(c)
```

```
23.456 <type 'float'>
23 <type 'int'>
```

```
In [13]: a="12ab"
        print int(a)
```

```
-----
ValueError                                Traceback (most recent call last)
```

```
<ipython-input-13-1af37f492512> in <module>()
      1 a="12ab"
----> 2 print int(a)
```

```
ValueError: invalid literal for int() with base 10: '12ab'
```

```
In [14]: a="12ab"
        print 11*12**0+10*12**1+2*12**2+1*12**3
        print int(a,12)
```

```
2147
2147
```

```
In [15]: name="Anil"
        a=name
        b="name"
        print a
        print b
```

```
Anil
name
```

```
In [16]: a=python
        print a
```

```
-----
NameError                                Traceback (most recent call last)
```

```
<ipython-input-16-f3678258c956> in <module>()
----> 1 a=python
      2 print a
```

```
NameError: name 'python' is not defined
```

```
In [17]: a="python"
```

```
In [18]: a=b1
```

```
-----  
NameError                                Traceback (most recent call last)  
  <ipython-input-18-71b3024cd610> in <module>()  
----> 1 a=b1
```

```
NameError: name 'b1' is not defined
```

```
In [19]: b1=10  
        a=b1
```

```
In [20]: name="Anil"  
        age=23  
        height=5.6  
        # Name: Anil, Age:23, Height: 5.6  
        print "Name:",name,"Age:",age,"Height:",height
```

```
Name: Anil Age: 23 Height: 5.6
```

```
In [21]: name="Anil"  
        age=23  
        height=5.6  
        # Name: Anil, Age:23, Height: 5.6  
        print "Name:",name," Age:",age," Height:",height
```

```
Name: Anil , Age: 23 , Height: 5.6
```

```
In [22]: print "Name:",name
```

```
Name: Anil
```

```
In [23]: print "Name:"+name
```

```
Name:Anil
```

```
In [24]: name="Anil"
        age=23
        height=5.6
        # Name: Anil, Age:23, Height: 5.6
        print "Name:",name+", Age:",age,", Height:",height
```

Name: Anil, Age: 23 , Height: 5.6

```
In [ ]: name="Anil"
        age=23
        height=5.6
        # Name: Anil, Age: 23, Height: 5.6
        print "Name:",name+", Age:",age+", Height:",height
```

```
In [25]: a="12"
        print a+"value"
```

12value

```
In [26]: name="Anil"
        age=23
        height=5.6
        # Name: Anil, Age: 23, Height: 5.6
        print "Name:",name+", Age:",age+", Height:",height
```

Name: Anil, Age:

```
-----
TypeError                                Traceback (most recent call last)

<ipython-input-26-6c72ca9d2728> in <module>()
      3 height=5.6
      4 # Name: Anil, Age: 23, Height: 5.6
----> 5 print "Name:",name+", Age:",age+", Height:",height
```

TypeError: unsupported operand type(s) for +: 'int' and 'str'

```
In [27]: name="Anil"
        age=23
        height=5.6
        # Name: Anil, Age: 23, Height: 5.6
        '''

        '''
        print "Name:",name+", Age:",str(age)+", Height:",height
```

Name: Anil, Age: 23, Height: 5.6

```
In [29]: print "line1"
        print "line2"
```

```
line1
line2
```

```
In [30]: print "line1\nline2"
```

```
line1
line2
```

```
In [31]: print "line1\tline2"
```

```
line1      line2
```

```
In [32]: # it's hot day
        print "it's hot day"
```

```
it's hot day
```

```
In [33]: # it's hot day
        print 'it's hot day'
```

```
File "<ipython-input-33-66cb6f52ebb0>", line 2
print 'it's hot day'
      ^
```

SyntaxError: invalid syntax

```
In [34]: # it's hot day
        print 'it\'s hot day'
```

```
it's hot day
```

```
In [35]: # it's "hot" day
        print 'it\'s "hot" day'
```

```
it's "hot" day
```

```
In [36]: # it's "hot" day
         print "it's \"hot\" day"
```

it's "hot" day

```
In [37]: print "line1\nline2"
```

line1
line2

```
In [38]: print "line1\\nline2"
```

line1\nline2

```
In [41]: s=r"sdfsfsd\nsdfsdf\tsdfsdf\nsdfsdf\tsdfsdfn\tdsfsd\ndsfs\t"
```

```
In [42]: print s
```

sdfsfsd\nsdfsdf\tsdfsdf\nsdfsdf\tsdfsdfn\tdsfsd\ndsfs\t

```
In [43]: s="sdfsfsd\nsdfsdf\tsdfsdf\nsdfsdf\tsdfsdfn\tdsfsd\ndsfs\t"
         print r"s
```

```
File "<ipython-input-43-c36dccad94eb>", line 2
print r"s
      ^
```

SyntaxError: EOL while scanning string literal

```
In [44]: a=23.45
         b=int(a)
         print "the value of product:" +str(b)
```

the value of product:23

```
In [45]: # %d %s %r %x %X, %o, %O %f
         print "%d"
```

%d

```
In [46]: print "%d",23.45
```

```
%d 23.45
```

```
In [47]: print "%d"%23.45
```

```
23
```

```
In [48]: a=23.45
        print "the value of product:%d"%a
```

```
the value of product:23
```

```
In [49]: a=1234
        print "hexa decimal value: %x"%a
        print "octal  value: %o"%a
```

```
hexa decimal value: 4d2
```

```
octal  value: 2322
```

```
In [50]: a=1234
        print "hexa decimal value: %X"%a
        print "octal  value: %O"%a
```

```
hexa decimal value: 4D2
```

```
octal  value: 2322
```

```
In [51]: a=23.456789
```

```
In [52]: float?
```

```
In [53]: print "%f"%a
```

```
23.456789
```

```
In [54]: print "%.2f"%a
```

```
23.46
```

```
In [55]: s123="sdfsfsd\nsdfsdf\tsdfsdf\nsdfsdf\tsdfsdfn\tdsfsd\ndsfs\t"
        print "%s"%s123
```

```
sdfsfsd
```

```
sdfsdf      sdfsdf
```

```
sdfsdf      sdfsdfn      dsfsd
```

```
dsf
```



```
In [56]: s123="sdfsfsd\nsdfsdf\tsdfsdf\nsdfsdf\tsdfsdfn\tdsfsd\ndsfs\t"
        print "%r"%s123
```

```
'sdfsfsd\nsdfsdf\tsdfsdf\nsdfsdf\tsdfsdfn\tdsfsd\ndsfs\t'
```

```
In [57]: name="Anil"
        age=23
        height=5.6
        # Name: Anil, Age: 23, Height: 5.6
        '''

        '''
        print "Name:",name+", Age:",str(age)+", Height:",height
        print "Name: %s, Age: %s, Height: %s"%(name,age,height)
```

```
Name: Anil, Age: 23, Height: 5.6
```

```
Name: Anil, Age: 23, Height: 5.6
```

```
In [58]: name="Anil"
        age=23
        height=5.6
        # Name: Anil, Age: 23, Height: 5.6
        '''

        '''
        print "Name:",name+", Age:",str(age)+", Height:",height
        print "Name: %s, Age: %s, Height: %s"%(age,height,name)
```

```
Name: Anil, Age: 23, Height: 5.6
```

```
Name: 23, Age: 5.6, Height: Anil
```

```
In [59]: a=23.45
        print "%d"%a
```

```
23
```

```
In [60]: a="23.45"
        print "%d"%a
```

```
TypeError
```

```
Traceback (most recent call last)
```

```
<ipython-input-60-a12cfb6069f1> in <module>()
```

```
1 a="23.45"
----> 2 print "%d"%a
```

TypeError: %d format: a number is required, not str

```
In [61]: a="23"
        print "%d"%a
```

TypeError Traceback (most recent call last)

```
<ipython-input-61-5a9a11f1b0eb> in <module>()
1 a="23"
----> 2 print "%d"%a
```

TypeError: %d format: a number is required, not str

```
In [62]: a=10
        print "product cost:"+a
```

TypeError Traceback (most recent call last)

```
<ipython-input-62-b6af3dcc843f> in <module>()
1 a=10
----> 2 print "product cost:"+a
```

TypeError: cannot concatenate 'str' and 'int' objects

```
In [63]: a=10
        print "product cost:"+str(a)
```

product cost:10

```
In [64]: a=10
        print "product cost:%d"%a
```

product cost:10

```
In [65]: a=10.23
        print "product cost:%d"%a
```

product cost:10

```
In [66]: a=raw_input("Enter a value:")
        b=input("Enter b value:")
        print a, type(a)
        print b, type(b)
```

Enter a value:12
Enter b value:12
12 <type 'str'>
12 <type 'int'>

```
In [67]: a=raw_input("Enter a value:")
        b=input("Enter b value:")
        print a, type(a)
        print b, type(b)
```

Enter a value:python
Enter b value:"12"
python <type 'str'>
12 <type 'str'>

```
In [68]: a=raw_input("Enter a value:")
        b=input("Enter b value:")
        print a, type(a)
        print b, type(b)
```

Enter a value:[1,2,3]
Enter b value:[1,2,3]
[1,2,3] <type 'str'>
[1, 2, 3] <type 'list'>

```
In [69]: a=raw_input("Enter a value:")
        b=input("Enter b value:")
        print a, type(a)
        print b, type(b)
```

Enter a value:(1,2,3)
Enter b value:(1,2,3)
(1,2,3) <type 'str'>
(1, 2, 3) <type 'tuple'>

```
In [70]: a=raw_input("Enter a value:")
        b=input("Enter b value:")
        print a, type(a)
        print b, type(b)
```

Enter a value:python

Enter b value:python

```
-----

NameError                                Traceback (most recent call last)

<ipython-input-70-58e59e078bcb> in <module>()
      1 a=raw_input("Enter a value:")
----> 2 b=input("Enter b value:")
      3 print a, type(a)
      4 print b, type(b)

/home/tcloudost/Downloads/yes/lib/python2.7/site-packages/ipykernel/ipkernel.py
162         self._sys_eval_input = builtin_mod.input
163         builtin_mod.raw_input = self.raw_input
--> 164         builtin_mod.input = lambda prompt='': eval(self.raw_input(prompt))
165         self._save_getpass = getpass.getpass
166         getpass.getpass = self.getpass

/home/tcloudost/Downloads/yes/lib/python2.7/site-packages/ipykernel/ipkernel.py

NameError: name 'python' is not defined
```

```
In [71]: a=python
```

```
-----

NameError                                Traceback (most recent call last)

<ipython-input-71-ef502d63e904> in <module>()
----> 1 a=python

NameError: name 'python' is not defined
```

```
In [72]: a="python"
```

```
In [73]: a=raw_input("Enter a value:")
         b=input("Enter b value:")
         print a, type(a)
         print b, type(b)
```

```
Enter a value:python
Enter b value:"python"
python <type 'str'>
python <type 'str'>
```

```
In [74]: a=10
         b=010
         print a
         print b
```

```
10
8
```

```
In [75]: a="0xab"
         print a
```

```
0xab
```

```
In [76]: a=0xab
         print a
```

```
171
```

```
In [77]: print 0o89
```

```
File "<ipython-input-77-fd6b51541505>", line 1
print 0o89
    ^
```

```
SyntaxError: invalid token
```

```
In [78]: print 0o23
```

```
19
```

```
In [79]: print 0b0101
```

5

```
In [80]: pritrn 0b234
```

```
File "<ipython-input-80-96a2091164eb>", line 1
pritrn 0b234
      ^
SyntaxError: invalid token
```

```
In [81]: print 010
```

8

```
In [ ]:
```