Kernel: Python 3 (system-wide)

In [1]:

```
print("str,int,float")
```

Out[1]:

```
str,int,float
```

In [2]:

```
x = "Hello World"
y = 5
z = 12.4
```

In [3]:

```
type(x)
```

Out[3]:

```
str
```

In [4]:

```
type(y)
```

Out[4]:

```
int
```

In [5]:

```
type(z)
```

Out[5]:

```
float
```

In [6]:

```
type(09)
```

Out[6]:

```
  File "/tmp/ipykernel_1155/3159953376.py", line 1
    type(09)
         ^
SyntaxError: leading zeros in decimal integer literals are not permitted;
use an 0o prefix for octal integers
```

In [7]:

```
type(1,000,000)
```

Out[7]:

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
/tmp/ipykernel_1155/3794323429.py in <cell line: 1>()
----> 1 type(1,000,000)

TypeError: type.__new__() argument 1 must be str, not int
```

In [8]:

```
type(1_000_000)
```

Out[8]:

```
int
```

In [9]:

```
type(12.45)
```

Out[9]:

```
float
```

```
In [10]: type(-1.5)
```

```
Out[10]: float
```

```
In [11]: type(.32)
```

```
Out[11]: float
```

```
In [12]: type(0.32)
```

```
Out[12]: float
```

```
In [13]: Tom = 1
         Dick = 1.5
         Harry = "2"
```

```
In [14]: type(Tom)
```

```
Out[14]: int
```

```
In [15]: type(Dick)
```

```
Out[15]: float
```

```
In [16]: type(Harry)
```

```
Out[16]: str
```

```
In [17]: type(tom)
```

```
Out[17]:
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
/tmp/ipykernel_1155/1653626368.py in <cell line: 1>()
----> 1 type(tom)

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

The error appeared above because the the "t" in Tom was not capitalized

```
In [18]: a_string = "25"
```

```
In [19]:
```

```
print(type(a_string))
```

Out[19]:
```
<class 'str'>
```

In [20]:
```
print(a_string)
```

Out[20]:
```
25
```

In [21]:
```
print()
```

Out[21]:

In [22]:
```
an_int = int(a_string)
print(type(an_int))
```

Out[22]:
```
<class 'int'>
```

In [23]:
```
print(an_int)
```

Out[23]:
```
25
```

In [26]:
```
a_string = "25."
print(type(a_string))
an_int = int(a_string)
```

Out[26]:
```
<class 'str'>
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
/tmp/ipykernel_1155/2134826193.py in <cell line: 3>()
      1 a_string = "25."
      2 print(type(a_string))
----> 3 an_int = int(a_string)

ValueError: invalid literal for int() with base 10: '25.'
```

In [27]:
```
print(3.4)
```

Out[27]:
```
3.4
```

In [28]:
```
x = 3.4
```

In [29]:
```
print(5/2)
```

Out[29]:
```
2.5
```

In [30]:
```
print(5//2)
```

```
Out[30]: 2
```

An expression is a combination of values, variables, and operators. A value all by itself is considered an expression, and so is a variable, so the following are all legal expressions (assuming that the variable x has been assigned a value):

```
In [1]:  print(2+3*5)
```

```
Out[1]:  17
```

```
In [2]:  print((2+3)*5)
```

```
Out[2]:  25
```

```
In [3]:  print(2/3/5)
```

```
Out[3]:  0.13333333333333333
```

```
In [4]:  print(2*3/5)
```

```
Out[4]:  1.2
```

```
In [6]:  print(-2**2)
```

```
Out[6]:  -4
```

```
In [7]:  no_p = 2**3**5
         left_p = (2**3)**5
         right_p = (2**(3**5))
```

```
In [8]:  print(no_p)
```

```
Out[8]:  14134776518227074636666380005943348126619871175004951664972849610340958208
```

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

```
Out[9]:  32768
```

```
In [10]:  print(right_p)
```

```
Out[10]:  14134776518227074636666380005943348126619871175004951664972849610340958208
```

no_p = right_p

In [11]:
```
print(5%2)
```
Out[11]:
```
1
```

In [12]:
```
print(13%5)
```
Out[12]:
```
3
```

In [13]:
```
print(4%2)
```
Out[13]:
```
0
```

In [14]:
```
print(0%2)
```
Out[14]:
```
0
```

In [15]:
```
print(-5%2)
```
Out[15]:
```
1
```

In [1]:
```
"Hello" + "Joe"
```
Out[1]:
```
'HelloJoe'
```

In [2]:
```
"Hello" + ", " + "Joe"
```
Out[2]:
```
'Hello, Joe'
```

In [3]:
```
3*("Hello"+", "+"Joe ")
```
Out[3]:
```
'Hello, Joe Hello, Joe Hello, Joe '
```

In [2]:
```
"A" + 2* " Merry" + " Christmas" + " To You"
```
Out[2]:
```
'A Merry Merry Christmas To You'
```

In [3]:
```
inp = input()
```
Out[3]:

Some silly stuff

In [4]:
```
print(inp)
```
Out[4]:
```
Some silly stuff
```

In [5]:

```
name = input('What is your name?\n')
```

Out[5]:

```
What is your name?
Colton Hveem
```

In [6]:

```
print(name)
```

Out[6]:

```
Colton Hveem
```

In [7]:

```
a_string = "25."
```

In [8]:

```
print(type(a_string))
```

Out[8]:

```
<class 'str'>
```

In [9]:

```
an_int = int(float(a_string))
print(an_int)
```

Out[9]:

```
25
```

In [10]:

```
print(type(an_int))
```

Out[10]:

```
<class 'int'>
```