Python Programming - II

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Python Strings

- Strings in Python are identified as a contiguous set of characters in between quotation marks.
- Python allows for either pairs of single or double quotes.
- Subsets of strings can be taken using the slice operator ([ ] and [:]) with indexes starting at 0 in the beginning of the string and working their way from -1 at the end.
- The plus (+) sign is the string concatenation operator and the asterisk (*) is the repetition operator

Working With Strings

- Besides numbers, Python can also manipulate strings, which can be expressed in several ways.
- They can be enclosed in single quotes or double quotes:

```
>>> 'spam eggs'
'spam eggs'
>>> 'doesn\'t'
"doesn't"
>>> "doesn't"
"doesn't"
>>> '"Yes," he said.'
'"Yes," he said.'
>>> "\"Yes,\" he said."
'"Yes," he said.'
>>> '"Isn\'t," she said.'
'"Isn\'t," she said.'
```

Working With Strings

- String literals can span multiple lines in several ways.
- Continuation lines can be used, with a backslash as the last character on the line indicating that the next line is a logical continuation of the line:
- Note that newlines still need to be embedded in the string using \n; the newline following the trailing backslash is discarded.
- strings can be surrounded in a pair of matching triple-quotes: """ or ”’.
- End of lines do not need to be escaped when using triple-quotes, but they will be included in the string.

Working With Strings

```
hello = "This is a rather long string containing\n\
several lines of text just as you would do in C.\n\
    Note that whitespace at the beginning of the line is\
 significant."
```

```
This is a rather long string containing
several lines of text just as you would do in C.
    Note that whitespace at the beginning of the line is significant.
```

Working With Strings

- Strings can be concatenated with the + operator, and repeated with *:

```
>>> word = 'Help' + 'A'
>>> word
'HelpA'
>>> '<' + word*5 + '>'
'<HelpAHelpAHelpAHelpAHelpA>'
```

Working With Strings

- Two string literals next to each other are automatically concatenated;
- the first line above could also have been written

  word = 'Help' 'A';

- this only works with two literals, not with arbitrary string expressions:

```
>>> 'str' 'ing'                   #  <-  This is ok
'string'
```

Working With Strings

- Strings can be subscripted (indexed); like in C, the first character of a string has subscript (index) 0.
- substrings can be specified with the ***slice notation:*** *two indices separated by a colon.*

word="HelpA"

```
>>> word[4]
'A'
>>> word[0:2]
'He'
>>> word[2:4]
'lp'
```

Working With Strings

- Slice indices have useful defaults; an omitted first index defaults to zero, an omitted second index defaults to the size of the string being sliced.

```
>>> word[:2]    # The first two characters
'He'
>>> word[2:]    # Everything except the first two characters
'lpA'
```

Working With Strings

- creating a new string with the combined content is easy and efficient:

```
>>> 'x' + word[1:]
'xelpA'
>>> 'Splat' + word[4]
'SplatA'
```

- Here's a useful invariant of slice operations:

  s[:i] + s[i:] equals s.

```
>>> word[:2] + word[2:]
'HelpA'
>>> word[:3] + word[3:]
'HelpA'
```

Working With Strings

- Indices may be negative numbers, to start counting from the right.

```
>>> word[-1]     # The last character
'A'
>>> word[-2]     # The last-but-one character
'p'
>>> word[-2:]    # The last two characters
'pA'
>>> word[:-2]    # Everything except the last two characters
'Hel'
```

But note that -0 is really the same as 0, so it does not count from the right!

```
>>> word[-0]     # (since -0 equals 0)
'H'
```

Working With Strings

- The built-in function ***len()*** returns the length of a string:

```
>>> s = 'supercalifragilisticexpialidocious'
>>> len(s)
34
```

String Data Type

Operator	Meaning
+	Concatenation
*	Repetition
<string>[]	Indexing
<string>[:]	Slicing
len(<string>)	Length

String Formatting Operator

- One of Python's coolest features is the string format operator **%**.
- This operator is unique to strings and makes up for the pack of having functions from C's printf() family

```
print("My name is %s and weight is %d kg!" % ('Zara', 21))
```

```
My name is Zara and weight is 21 kg!
```

String Formatting Operator

List of set of symbols which can be used along with %

Format Symbol	Conversion
%c	character
%s	string conversion via str() prior to formatting
%i	signed decimal integer
%d	signed decimal integer
%u	unsigned decimal integer
%o	octal integer
%x	hexadecimal integer (lowercase letters)
%X	hexadecimal integer (UPPERcase letters)
%e	exponential notation (with lowercase 'e')
%E	exponential notation (with UPPERcase 'E')
%f	floating point real number

String Formatting : Example(s)

```
>>> a=12
>>> b=20
>>> s=a+b
>>> s
32
>>> print("the result of addition of ",a," and ",b," is ",s)
the result of addition of  12  and  20  is  32
>>> print("the result of addition of %d and %d is %d "%(a,b,s))
the result of addition of 12 and 20 is 32
>>> print("the result of addition of {0} and {1} is {2} ".format(a,b,s))
the result of addition of 12 and 20 is 32
>>> print("the result of addition of "+a+" and "+b+" is "+s)
Traceback (most recent call last):
  File "<pyshell#7>", line 1, in <module>
    print("the result of addition of "+a+" and "+b+" is "+s)
TypeError: Can't convert 'int' object to str implicitly
>>> print("the result of addition of "+str(a)+" and "+str(b)+" is "+str(s))
the result of addition of 12 and 20 is 32
```

Built-in String Methods

- **capitalize():** It returns a copy of the string with only its first character capitalized.

str.capitalize ( )

```
str = "this is string example....wow!!!";

print( "str.capitalize() : ", str.capitalize())
```

```
str.capitalize() :  This is string example....wow!!!
```

Built-in String Methods

- **count():** The method **count()** returns the number of occurrences of substring sub in the range [start, end].

Syntax

```
str.count(sub, start= 0,end=len(string))
```

```
str = "this is string example....wow!!!";

sub = "i";
print "str.count(sub, 4, 40) : ", str.count(sub, 4, 40)
sub = "wow";
print "str.count(sub) : ", str.count(sub)
```

```
str.count(sub, 4, 40) :  2
str.count(sub, 4, 40) :  1
```

Built-in String Methods

- **find():** It determines if string *str* occurs in string, or in a substring of string if starting index *beg* and ending index *end* are given.

Syntax

```
str.find(str, beg=0, end=len(string))
```

Index if found and -1 otherwise.

```
>>> s = 'hello world'
>>> s.find('l',0,len(s))
2
>>> s.find('l',1,len(s))
2
>>> s.find('l',4,len(s))
9
>>> s.find('l',2,len(s))
2
>>> s.find('l',3,len(s))
3
```

Built-in String Methods

- **lower():** The method **lower()** returns a copy of the string in which all case-based characters have been lowercased.

```
str.lower()
```

```
str = "THIS IS STRING EXAMPLE....WOW!!!";

print str.lower()
```

```
this is string example....wow!!!
```

Built-in String Methods

- **upper()** :The method **upper()** returns a copy of the string in which all case-based characters have been uppercased.
- **swapcase():** The method **swapcase()** returns a copy of the string in which all the case-based characters have had their case swapped.
- **title():** The method **title()** returns a copy of the string in which first characters of all the words are capitalized.
- **replace()** : The method **replace()** returns a copy of the string in which the occurrences of *old* have been replaced with *new*, optionally restricting the number of replacements to *max*.

```
str.replace(old, new[, max])
```

```
>>> s = 'hello world'
>>> s.swapcase()
'HELLO WORLD'
>>> s= 'HELLO WORLD'
>>> s.swapcase()
'hello world'
>>> s = 'Hello World'
>>> s.swapcase()
'hELLO wORLD'
>>> s = 'Hello world'
>>> s.swapcase()
'hELLO WORLD'
>>> s = 'hello world'
>>> s.title()
'Hello World'
>>> s = 'hello world'
>>> s.upper()
'HELLO WORLD'
```

```
>>> s = 'Hello World'
>>> s.replace('l','x')
'Hexxo Worxd'
>>> s.replace('l','x',2)
'Hexxo World'
>>> s.replace('l','x',1)
'Hexlo World'
```

Data Type Conversion

- Sometimes, you may need to perform conversions between the built-in types.
- To convert between types, you simply use the type name as a function.
- There are several built-in functions to perform conversion from one data type to another.
- These functions return a new object representing the converted value.

Data Type Conversion

Function	Description
int(x [,base])	Converts x to an integer. base specifies the base if x is a string.
long(x [,base])	Converts x to a long integer. base specifies the base if x is a string.
float(x)	Converts x to a floating-point number.
complex(real [,imag])	Creates a complex number.
str(x)	Converts object x to a string representation.

Data Type Conversion

chr(x)	Converts an integer to a character.
ord(x)	Converts a single character to its integer value.
hex(x)	Converts an integer to a hexadecimal string.
oct(x)	Converts an integer to an octal string.

Python Operators

- Operators are special symbols in Python that carry out arithmetic or logical computation.
- The value that the operator operates on is called the operand.

```
>>> 2+3
5
```

Type of operators in Python

Python has a number of operators which are classified below:

- **Arithmetic operators**
- **Comparison (Relational) operators**
- **Logical (Boolean) operators**
- **Assignment operators**
- **Special operators:** Identity operators & membership operator

Arithmetic operators

Operator	Meaning	Example
+	Add two operands or unary plus	x + y +2
-	Subtract right operand from the left or unary minus	x - y -2
*	Multiply two operands	x * y
/	Divide left operand by the right one	x / y
%	Modulus - remainder of the division of left operand by the right	x % y (remainder of x/y)
//	Floor division - division that results into whole number adjusted to the left in the number line	x // y
**	Exponent - left operand raised to the power of right	x**y (x to the power y)

Arithmetic operators

```
x = 15
y = 4
print('x + y = ',x+y)
print('x - y = ',x-y)
print('x * y = ',x*y)
print('x / y = ',x/y)
print('x // y = ',x//y)
print('x ** y = ',x**y)
```

Output

```
x + y =  19
x - y =  11
x * y =  60
x / y =  3.
x // y =  3
x ** y =  50625
```

In Python 3.x

3.75

Comparison operators

- Comparison operators are used to compare values.
- It either returns True or False according to the condition

Operator	Meaning	Example
>	Greater that - True if left operand is greater than the right	x > y
<	Less that - True if left operand is less than the right	x < y
==	Equal to - True if both operands are equal	x == y
!=	Not equal to - True if operands are not equal	x != y
>=	Greater than or equal to - True if left operand is greater than or equal to the right	x >= y
<=	Less than or equal to - True if left operand is less than or equal to the right	x <= y

Comparison operators

```
x = 10
y = 12
print('x > y  is',x>y)
print('x < y  is',x<y)
print('x == y is',x==y)
print('x != y is',x!=y)
print('x >= y is',x>=y)
print('x <= y is',x<=y)
```

Output

```
x > y  is False
x < y  is True
x == y is False
x != y is True
x >= y is False
x <= y is True
```

Logical operators

Operator	Meaning	Example
and	True if both the operands are true	x and y
or	True if either of the operands is true	x or y
not	True if operand is false (complements the operand)	not x

- **True, False :** True and False are truth values in Python. They are the results of comparison operations or logical (Boolean) operations in Python.
- True and False in python is same as 1 and 0

Logical operators

```
>>> 1 == 1
True
>>> 5 > 3
True
>>> True or False
True
>>> 10 <= 1
False
>>> 3 > 7
False
>>> True and False
False
```

```
>>> True == 1
True
>>> False == 0
True
>>> True + True
2
```

Logical operators

Truth table for and

A	B	A and B
True	True	True
True	False	False
False	True	False
False	False	False

Truth table for or

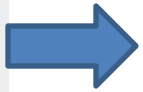
A	B	A or B
True	True	True
True	False	True
False	True	True
False	False	False

Truth tabel for not

A	not A
True	False
False	True

Logical operators

```
x = True
y = False
print('x and y is',x and y)
print('x or y is',x or y)
print('not x is',not x)
```



```
x and y is False
x or y is True
not x is False
```

Assignment operators

- Assignment operators are used in Python to assign values to variables.
- a = 5 is a simple assignment operator that assigns the value 5 on the right to the variable *a* on the left.
- There are various compound operators in Python like a += 5 that adds to the variable and later assigns the same. It is equivalent to a = a + 5.

Assignment operators

Operator	Example	Equivatent to
=	x = 5	x = 5
+=	x += 5	x = x + 5
-=	x -= 5	x = x - 5
*=	x *= 5	x = x * 5
/=	x /= 5	x = x / 5
%=	x %= 5	x = x % 5
//=	x //= 5	x = x // 5
**=	x **= 5	x = x ** 5
&=	x &= 5	x = x & 5
|=	x |= 5	x = x | 5
^=	x ^= 5	x = x ^ 5
>>=	x >>= 5	x = x >> 5
<<=	x <<= 5	x = x << 5

Special operators

- Python language offers some special type of operators like the **identity operator** or the **membership operator**.

Identity operators

- **is** and **is not** are the identity operators in Python.
- They are used to check if two values (or variables) are located on the same part of the memory.
- Two variables that are equal does not imply that they are identical.

Operator	Meaning	Example
is	True if the operands are identical (refer to the same object)	x is True
is not	True if the operands are not identical (do not refer to the same object)	x is not True

Identity operators

```
x1 = 5
y1 = 5
x2 = 'Hello'
y2 = 'Hello'
x3 = [1,2,3]
y3 = [1,2,3]
print(x1 is not y1)
print(x2 is y2)
print(x3 is y3)
```

Output

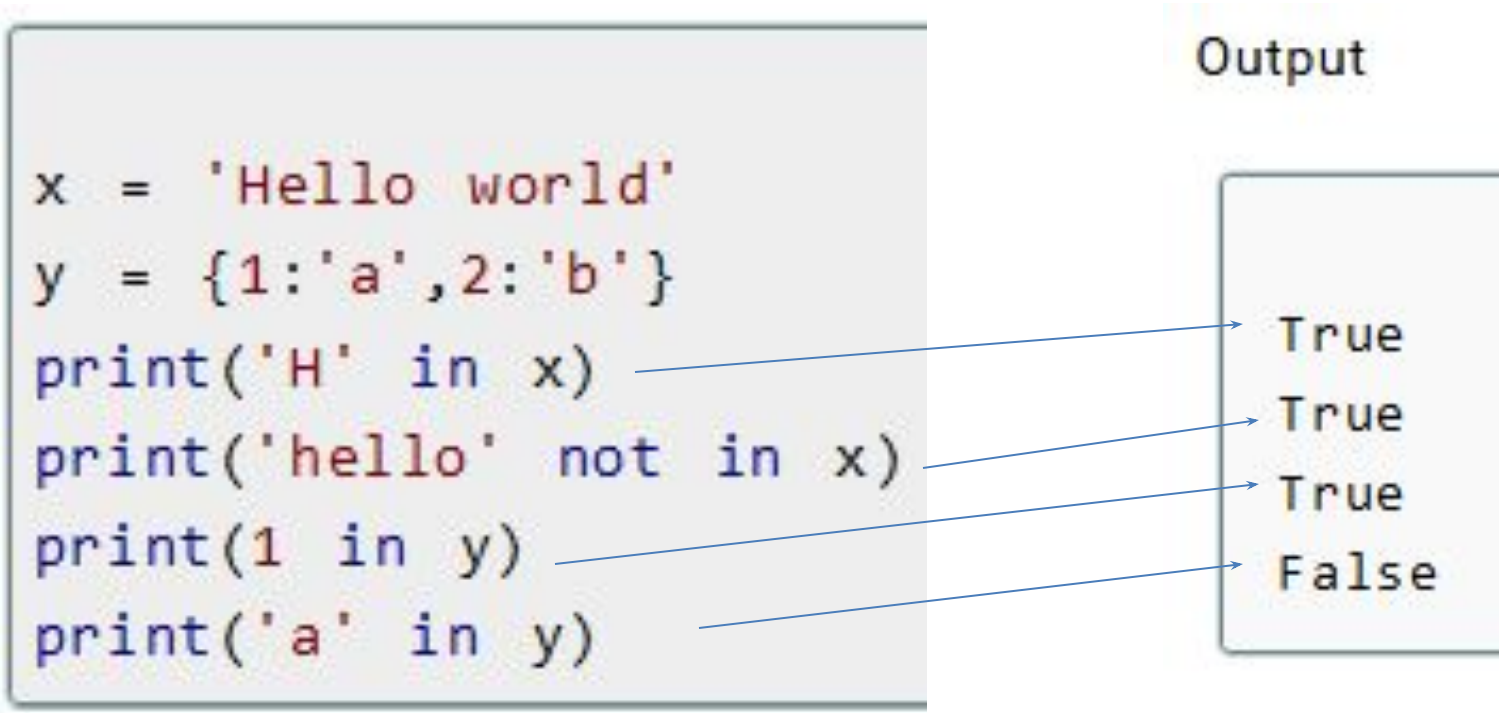
```
False
True
False
```

Membership operators

- **in** and **not in** are the membership operators in Python.
- They are used to test whether a value or variable is found in a sequence (string, list, tuple and dictionary).
- In a dictionary we can only test for presence of key, not the value.

Operator	Meaning	Example
in	True if value/variable is found in the sequence	5 in x
not in	True if value/variable is not found in the sequence	5 not in x

Membership operators



Order Of Operation

- First level of precedence: top to bottom
- Second level of precedence
  - If there are multiple operations that are on the same level then precedence goes from left to right.

()	Brackets (inner before outer)
**	Exponent
*, /, %	Multiplication, division, modulo
+, -	Addition, subtraction

Almost all operators except the exponent(**) support the Left-to-right Associativity.

Python Operators Precedence

Operators from highest precedence to lowest

Highest

Operator	Description
**	Exponentiation (raise to the power)
* / % //	Multiply, divide, modulo and floor division
+ -	Addition and subtraction
>> <<	Right and left bitwise shift
&	Bitwise 'AND'
^ |	Bitwise exclusive `OR' and regular `OR'
<= < > >=	Comparison operators
<> == !=	Equality operators
= %= /= //= -= += *= **=	Assignment operators
is is not	Identity operators
in not in	Membership operators
not or and	Logical operators

lowest

Python Operators Precedence

```
a = 20
b = 10
c = 15
d = 5
e = 0

e = (a + b) * c / d       #( 30 * 15 ) / 5
print "Value of (a + b) * c / d is ",  e

e = ((a + b) * c) / d     # (30 * 15 ) / 5
print "Value of ((a + b) * c) / d is ",  e

e = (a + b) * (c / d);    # (30) * (15/5)
print "Value of (a + b) * (c / d) is ",  e

e = a + (b * c) / d;      #  20 + (150/5)
print "Value of a + (b * c) / d is ",  e
```

Output

```
Value of (a + b) * c / d is 90
Value of ((a + b) * c) / d is 90
Value of (a + b) * (c / d) is 90
Value of a + (b * c) / d is 50
```

Bit-wise operators

- AND(&): bits(0 and 1) are set to 1 if both the inputs are 1 otherwise 0.

And (&)

Input1	input2	Output
0	0	0
0	1	0
1	0	0
1	1	1

- Or(|): bits are set to 1 if both the inputs or any one of the input is 1.

Input1	input2	Output
0	0	0
0	1	1
1	0	1
1	1	1

- XOR(^):bits are set to 1 if any one of the input is 1 otherwise 0.

Input1	input2	Output
0	0	0
0	1	1
1	0	1
1	1	0

```
shift operators: >>(right shift) and <<(left shift)

left shift(<<):
  a=20  =>    10100

    00010100
a<<2  01010000

right shift(>>)

a>>2    000101


~(Python 1's complement):

-(number+1)

10 => 1010

~10 = -(1010+1)
    = -(1011) binary
    = -11 decimal
```

Python Lists:

- The most basic data structure in Python is the sequence.
- Each element of a sequence is assigned a number - its position or index.
- The first index is zero, the second index is one, and so forth.
- Most common sequences are lists and tuples.
- There are certain things you can do with all sequence types.
- These operations include indexing, slicing, adding, multiplying, and checking for membership.
- In addition, Python has built-in functions for finding the length of a sequence and for finding its largest and smallest elements.

Python Lists:

- Lists are the most versatile of Python's compound data types.
- A list contains items separated by commas and enclosed within square brackets ([]).
- To some extent, lists are similar to arrays in C. One difference between them is that all the items belonging to a list can be of different data type.
- The values stored in a list can be accessed using the slice operator ([ ] and [:]) with indexes starting at 0 in the beginning of the list and working their way to end -1.
- The plus (+) sign is the list concatenation operator, and the asterisk (*) is the repetition operator.
- A list can even have another list as an item. These are called nested list.

```
# empty list
my_list = []

# list of integers
my_list = [1, 2, 3]

# list with mixed datatypes
my_list = [1, "Hello", 3.4]

# nested list
my_list = ["mouse", [8, 4, 6]]
```

Example

```
>>> list = [ 'abcd', 786 , 2.23, 'john', 70.2 ]
>>> tinylist = [123, 'john']
>>> print list
['abcd', 786, 2.23, 'john', 70.2]
>>> print list[0]
abcd
>>> print list[1:3]
[786, 2.23]
>>> print tinylist * 2
[123, 'john', 123, 'john']
>>> print list + tinylist
['abcd', 786, 2.23, 'john', 70.2, 123, 'john']
```

Accessing Values in Lists

- To access values in lists, use the square brackets for slicing along with the index or indices to obtain value available at that index

```
list1 = ['physics', 'chemistry', 1997, 2000];
list2 = [1, 2, 3, 4, 5, 6, 7 ];

print "list1[0]: ", list1[0]
print "list2[1:5]: ", list2[1:5]
```

```
list1[0]:  physics
list2[1:5]:  [2, 3, 4, 5]
```

Accessing Values in Lists

```
>>> my_list = ['p','r','o','b','e']
>>> my_list[0]
'p'
>>> my_list[2]
'o'
>>> my_list[4]
'e'
>>> my_list[4.0]
...
TypeError: list indices must be integers, not float
>>> my_list[5]
...
IndexError: list index out of range

>>> n_list = ["Happy", [2,0,1,5]]
>>> n_list[0][1]     # nested indexing
'a'
>>> n_list[1][3]     # nested indexing
5
```

```
n_list = ["Happy", [2,0,1,5]]
```

Updating Lists

- You can update single or multiple elements of lists by giving the slice on the left-hand side of the assignment operator, and you can add to elements in a list with the append() method.

```
list = ['physics', 'chemistry', 1997, 2000];

print "Value available at index 2 : "
print list[2]
list[2] = 2001;
print "New value available at index 2 : "
print list[2]
```

1997

2001

```
Value available at index 2 :
1997
New value available at index 2 :
2001
```

Python List append() Method

- The method **append()** appends a passed *obj* into the existing list.

```
list.append(obj)
```

```
aList = [123, 'xyz', 'zara', 'abc'];
aList.append( 2009 );
print "Updated List : ", aList
```

```
Updated List :  [123, 'xyz', 'zara', 'abc', 2009]
```

Delete List Elements

- To remove a list element, you can use either the del statement if you know exactly which element(s) you are deleting or the remove() method if you do not know

```
list1 = ['physics', 'chemistry', 1997, 2000];

print list1
del list1[2];
print "After deleting value at index 2 : "
print list1
```

```
['physics', 'chemistry', 1997, 2000]
After deleting value at index 2 :
['physics', 'chemistry', 2000]
```

Python List remove() Method

```
aList = [123, 'xyz', 'zara', 'abc', 'xyz'];

aList.remove('xyz');
print "List : ", aList
aList.remove('abc');
print "List : ", aList
```

```
List :  [123, 'zara', 'abc', 'xyz']
List :  [123, 'zara', 'xyz']
```

Basic List Operations

- Lists respond to the + and * operators much like strings; they mean concatenation and repetition here too, except that the result is a new list, not a string.

Python Expression	Results	Description
len([1, 2, 3])	3	Length
[1, 2, 3] + [4, 5, 6]	[1, 2, 3, 4, 5, 6]	Concatenation
['Hi!'] * 4	['Hi!', 'Hi!', 'Hi!', 'Hi!']	Repetition
3 in [1, 2, 3]	True	Membership
for x in [1, 2, 3]: print x,	1 2 3	Iteration

Indexing & Slicing

- Because lists are sequences, indexing and slicing work the same way for lists as they do for strings.

```
L = ['spam', 'Spam', 'SPAM!']
```

Python Expression	Results	Description
L[2]	'SPAM!'	Offsets start at zero
L[-2]	'Spam'	Negative: count from the right
L[1:]	['Spam', 'SPAM!']	Slicing fetches sections

Built-in List Functions & Methods:

- **len():** The method **len()** returns the number of elements in the *list*.

```
list1, list2 = [123, 'xyz', 'zara'], [456, 'abc']

print "First list length : ", len(list1)
print "Second list length : ", len(list2)
```

```
First list length :  3
Second lsit length :  2
```

Built-in List Functions & Methods:

- **max():** The method **max** returns the elements from the *list* with maximum value.
- **Note: in Python3.x version max is used only for same kind of values at a time**

```
list1, list2 = [123, 'xyz', 'zara', 'abc'], [456, 700, 200]

print "Max value element : ", max(list1)
print "Max value element : ", max(list2)
```

```
Max value element :  zara
Max value element :  700
```

Built-in List Functions & Methods:

- **min()** : The method **min()** returns the elements from the *list* with minimum value.
- **Note: in Python3.x version min is used only for same kind of values at a time**

```
list1, list2 = [123, 'xyz', 'zara', 'abc'], [456, 700, 200]

print "min value element : ", min(list1)
print "min value element : ", min(list2)
```

```
min value element :  123
min value element :  200
```

Built-in List Functions & Methods:

- **count()** : The method **count()** returns count of how many times *obj* occurs in list.
- **Syntax:**

```
list.count(obj)
```

```
aList = [123, 'xyz', 'zara', 'abc', 123];

print "Count for 123 : ", aList.count(123)
print "Count for zara : ", aList.count('zara')
```

```
Count for 123 :  2
Count for zara :  1
```

Built-in List Functions & Methods:

- **extend()** : The method **extend()** appends the contents of *seq* to list.
- seq is the list of elements.

```
aList = [123, 'xyz', 'zara', 'abc', 123];
bList = [2009, 'manni'];
aList.extend(bList)

print "Extended List : ", aList
```

```
Extended List :  [123, 'xyz', 'zara', 'abc', 123, 2009, 'manni']
```

```
>>> list = [1,2,3,4,'a']
>>> list1 = [10,20]
>>> list.append(list1)
>>> list
[1, 2, 3, 4, 'a', [10, 20]]
>>> list = [1,2,3,4,'a']
>>> list1 = [10,20]
>>> list.extend(list1)
>>> list
[1, 2, 3, 4, 'a', 10, 20]
```

Built-in List Functions & Methods:

- **insert()** : The method **insert()** inserts object *obj* into list at offset *index*.
- **Syntax:**

```
list.insert(index, obj)
```

```
aList = [123, 'xyz', 'zara', 'abc']

aList.insert( 3, 2009)

print "Final List : ", aList
```

```
Final List : [123, 'xyz', 'zara', 2009, 'abc']
```

Built-in List Functions & Methods:

- **index()** : The method **index()** returns the lowest index in list that *obj* appears

```
list.index(obj)
```

```
aList = [123, 'xyz', 'zara', 'abc'];

print "Index for xyz : ", aList.index( 'xyz' )
print "Index for zara : ", aList.index( 'zara' )
```

```
Index for xyz :  1
Index for zara :  2
```

Built-in List Functions & Methods:

- **pop():** pop([*i*]) return and remove the item at position *i* (last item if *i* is not provided)

```
>>> alist = ['a', 1,'b',30]
>>> alist.pop()
30
>>> alist
['a', 1, 'b']
>>> alist.pop(1)
1
>>> alist
['a', 'b']
```

Built-in List Functions & Methods:

- **sort():** Sort items in a list in ascending order
- **reverse():** Reverse the order of items in a list
- **clear():** Remove all items and empty the list

```
>>> my_list = [3, 8, 1, 6, 0, 8, 4]
>>> my_list.sort()
>>> my_list
[0, 1, 3, 4, 6, 8, 8]
>>> my_list.reverse()
>>> my_list
[8, 8, 6, 4, 3, 1, 0]
>>> my_list.clear()
>>> my_list
[]
```