

Python - Basics & Beyond

-Session 2

**Composite Data Types, Operators,
Branching (Conditionals), Loops,
Inputs and a few programs**



Operators

Resources Link:

https://www.w3schools.com/python/python_operators.asp



LIST

List is a collection which is ordered and changeable. Allows duplicate members.

z =	[3,	7,	4,	2]
index	0	1	2	3
negative index	-4	-3	-2	-1

Built-in Functions:

len(z)

z[2:5]

z[:4]

z.insert(2, 5)

z.append(6)

z.extend([1,2,3])

z.remove(1)

z.pop(3) # if index is not passed, last item is removed

others: del, clear

After For and If

newlist = [expression for item in iterable if condition == True]

z.sort()

z.sort(reverse=True)

z.copy()

z.reverse()



TUPLE

A tuple is a collection which is ordered and unchangeable. Allows duplicate members.

Built-in Functions:

```
z = (3,7,4,2)
```

```
z.count()
```

```
z.index(3)
```

want to do anything, change to list then do the tuples



IF

if and else blocks

a = 33

b = 200

if b > a:

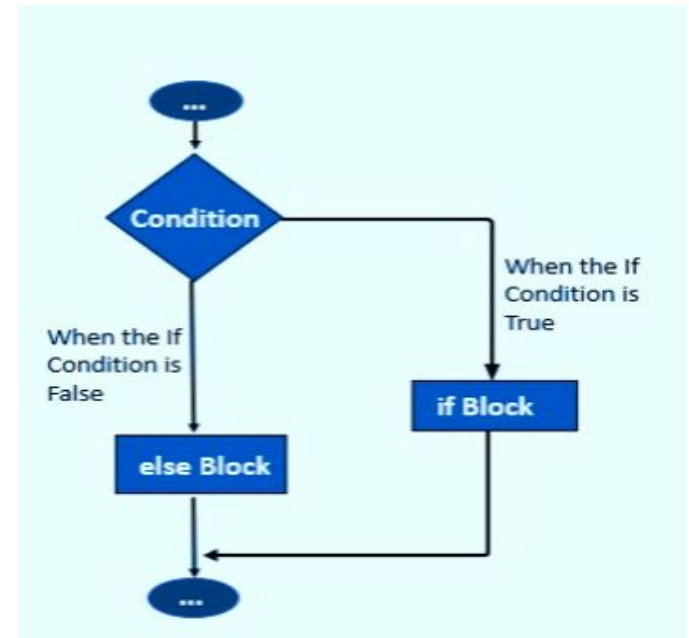
 print("b is greater than a")

elif b == a:

 print("b is equal to a")

else:

 print("Doesn't work!")



LOOPS

while: loop until a condition is true

```
i = 1
while i < 6:
    print(i)
    i += 1
```

for: loop over a sequence of items

```
fruits = ["apple", "banana", "cherry"]
for x in fruits:
    print(x)
```

Can use: **continue, break**



FUNCTION

A function is a block of code which only runs when it is called.

You can pass data, known as parameters, into a function.

A function can return data as a result.

Examples:

```
def my_function():  
    print("Hello from a function")
```

```
def my_function(fname, lname):  
    print(fname + " " + lname)
```

```
def my_function(x):  
    return 5 * x, 5 + x
```



MISC

- 1. List comprehensions
- 1. Lambda functions
- 1. Pass statement
- 1. Commenting and documenting your code
- 1. String Formatting



EXERCISE 1

FIBONACCI SEQUENCE

0,1,2,3,5,8.....



EXERCISE 2

PRIME NUMBERS

Is this number Prime?



EXERCISE 3

Print All Integers That Aren't Divisible by Either 2 or 3 and Lie between 1 and 50.

Take an input from a user and do it in the minimum lines of code.



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