

Decision making

- ⦿ Conditional construct available in Python are
 - if statement
 - if else statement
 - if elif else statement
 - Nested / chained statement

if condition / test expression :

statement(s)

- ⦿ : at the end of **if** indicates continuation of statement
- ⦿ Statement(s) belonging to **if** are indented to indicate block of code to be executed, if condition is satisfied
- ⦿ Indentation is used to form a block of statement in Python. All statement at same indent level are considered in same block.
- ⦿ Usually four spaces are used to start a new block, but it can be any number of spaces or even tab(s) may be used.
- ⦿ First unindented statement marks end of block.

```
if condition / test expression :  
    statement(s)  
else :  
    statement(s)  
if condition / test expression :  
    statement(s)  
elif condition / test expression :  
    statement(s)  
  
:  
:  
else :
```

statement(s)

- ⦿ There will only be one else in an if statement.
- ⦿ Nested condition - An if statement can be placed inside if, just like any other statement.
- ⦿ There can be chain of elif statement in one if.

Iterative construct

- ⦿ Python provide two types of looping construct
 - while
 - for

While loop

- ⦿ while test expression / condition :

statement(s)

[else:

statement(s)] optional

- When test expression written in **while** returns false then the **else statement** if present, gets executed.

For loop

- ⦿ for var(iteratorVar) in sequence :

statement(s)

[else :

statement(s)] optional

- Sequence is any sequence data type viz list, tuple, dictionary.
- Else statement, if given, will execute immediately after for block, always.
- Apart from sequence type, for loop can iterate over range() function, file, etc.
- range function
 - range(start, stop, step)

- Generates a sequence of numbers beginning from start till stop-1
- Step signifies the interval between the terms
- We can have negative value for step when start > stop
- First and third arguments are optional
- Default value of start is 0 and step is 1

Unconditional transfer of control

- ⦿ break statement
 - Transfers control out of the loop
- ⦿ continue statement
 - Skips current iteration in the loop
- ⦿ pass statement
 - Valid executable statement. Used to replace the section of code to be defined later