

# Flow control of Python programs

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# PROGRAMMING PARADIGMS

## Paradigm

A programming paradigm is a style or 'way' of programming that facilitates transfer of knowledge in code.

# IMPERATIVE

```
1 sum = 0
2 for x in my_list:
3     sum += x
4 print(sum)
```

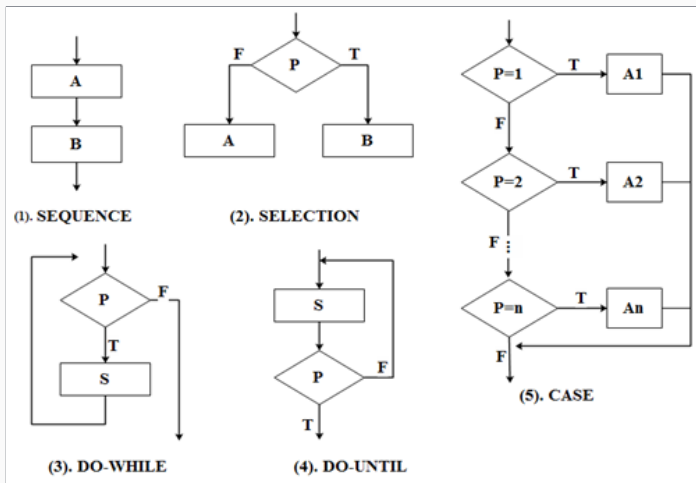
Programming with an explicit sequence of commands that update state.

# DECLARATIVE

```
1 SELECT SUM(my_column)
2 FROM my_database
```

Programming by specifying the result you want, not how to get it.

# CONTROL OF FLOW



Control flow is the order in which the individual Python statement, expression and function call are evaluated.

## RETURN TO CT

$x_i$	1	2	A	4	B	A	7	8	A	B	11	A	13	14	AB
$i$	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

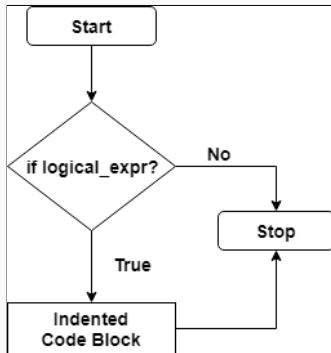
```
1 def solution(n):
2     result = str()
3     for i in range(1, n + 1, 1):
4         flag = False
5         if i % 3 == 0:
6             result += 'A'
7             flag = True
8         if i % 5 == 0:
9             result += 'B'
10            flag = True
11            if flag == False:
12                result += str(i)
13    return result
```

# BOOLEAN OPERATORS

NOT		AND			OR			XOR		
$x$	$x'$	$x$	$y$	$xy$	$x$	$y$	$x+y$	$x$	$y$	$x \oplus y$
0	1	0	0	0	0	0	0	0	0	0
1	0	0	1	0	0	1	1	0	1	1
		1	0	0	1	0	1	1	0	1
		1	1	1	1	1	1	1	1	0

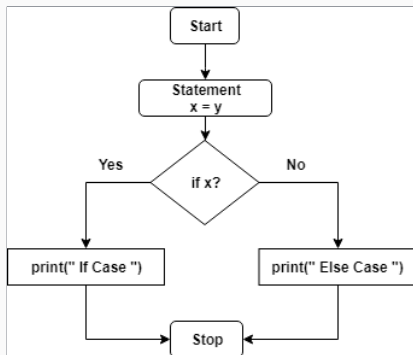
Boolean algebra is the branch of algebra in which the values of the variables are the truth values true and false, usually denoted 1 and 0, respectively. Boolean operators can be used to control the execution of a Python program.

## IF STATEMENT

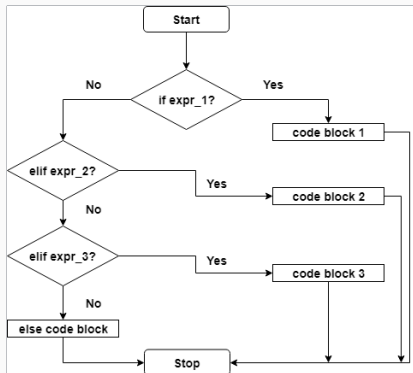




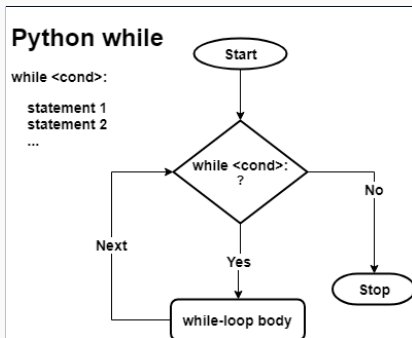
## IF-ELSE STATEMENT



## IF-ELIF-ELSE STATEMENT



# WHILE STATEMENT



# FOR STATEMENT

