

# Python Basic Condition

By Sendi Novianto



# Sendi Novianto



## Detail Information:

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- **Bidang Penelitian:**
  - Game Technology
  - Artificial Intelligent
  - Image Processing
  - Pattern Recognition
  - IOT



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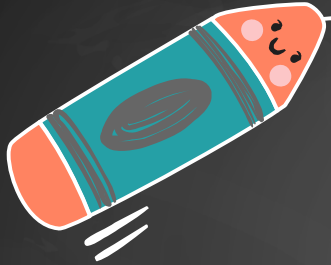
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# 01 Comparison

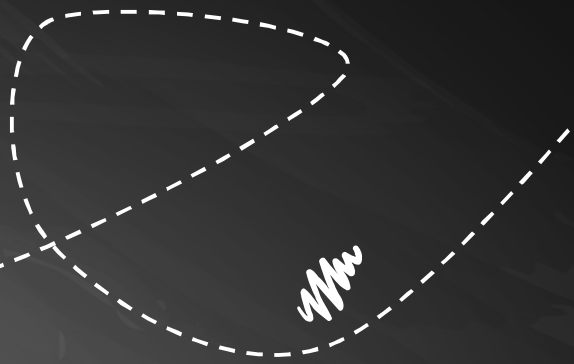


=  
Beda dengan

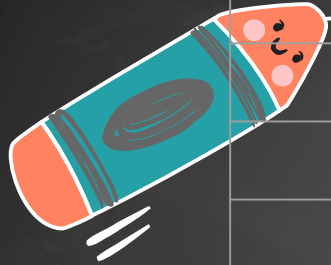


==

<  
>  
<=  
>=  
!=



## Tugas



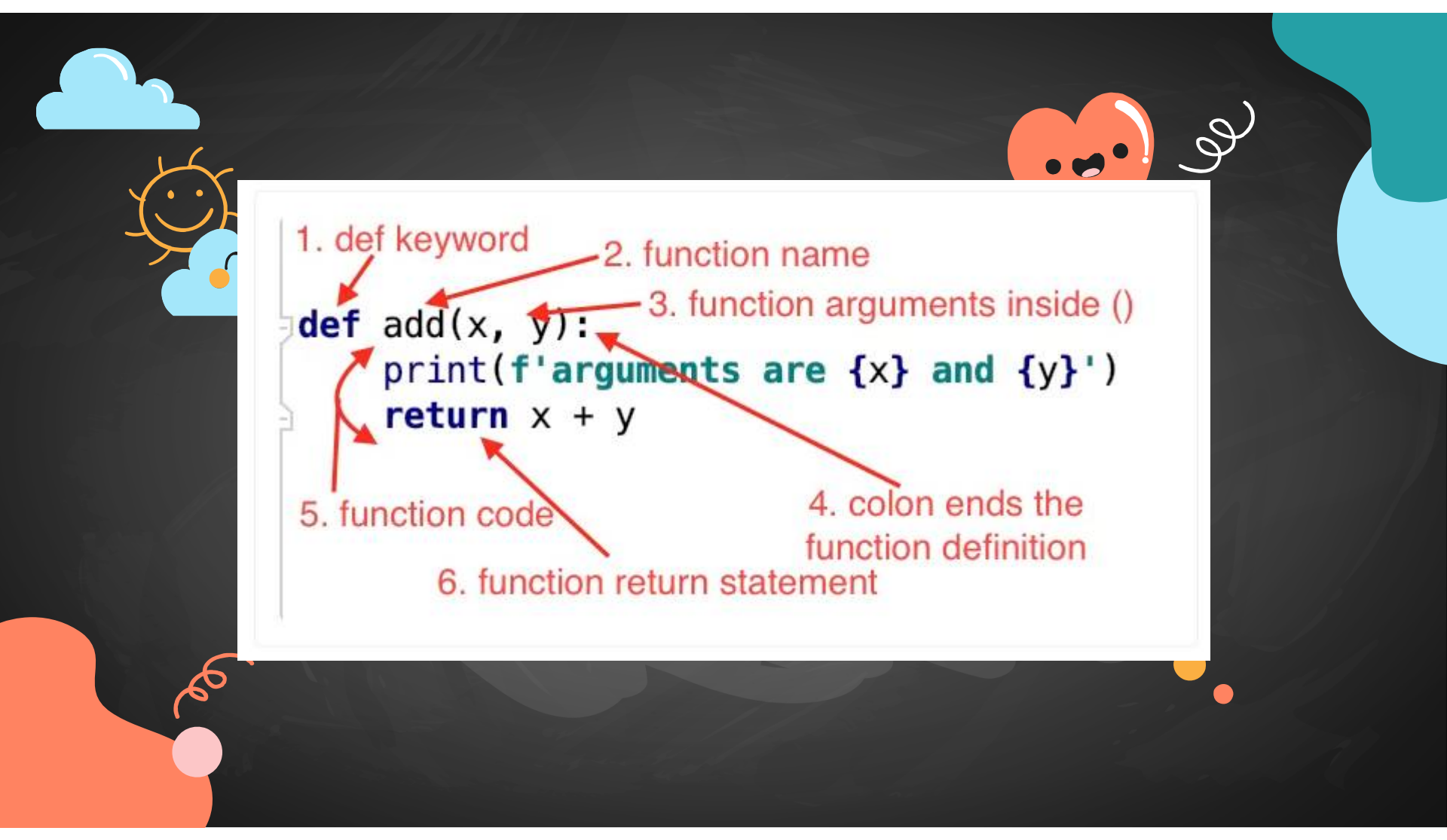
Input	Output
65	False
100	False
200	True
310	True
-13	True
+234	False



02

## Function





```
def add(x, y):  
    print(f'arguments are {x} and {y}')
```

1. def keyword

2. function name

3. function arguments inside ()

4. colon ends the function definition

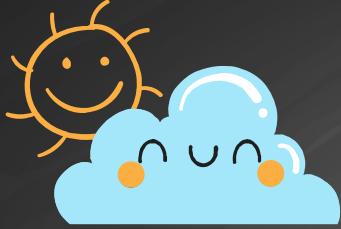
5. function code

6. function return statement

```
    return x + y
```



# Tugas



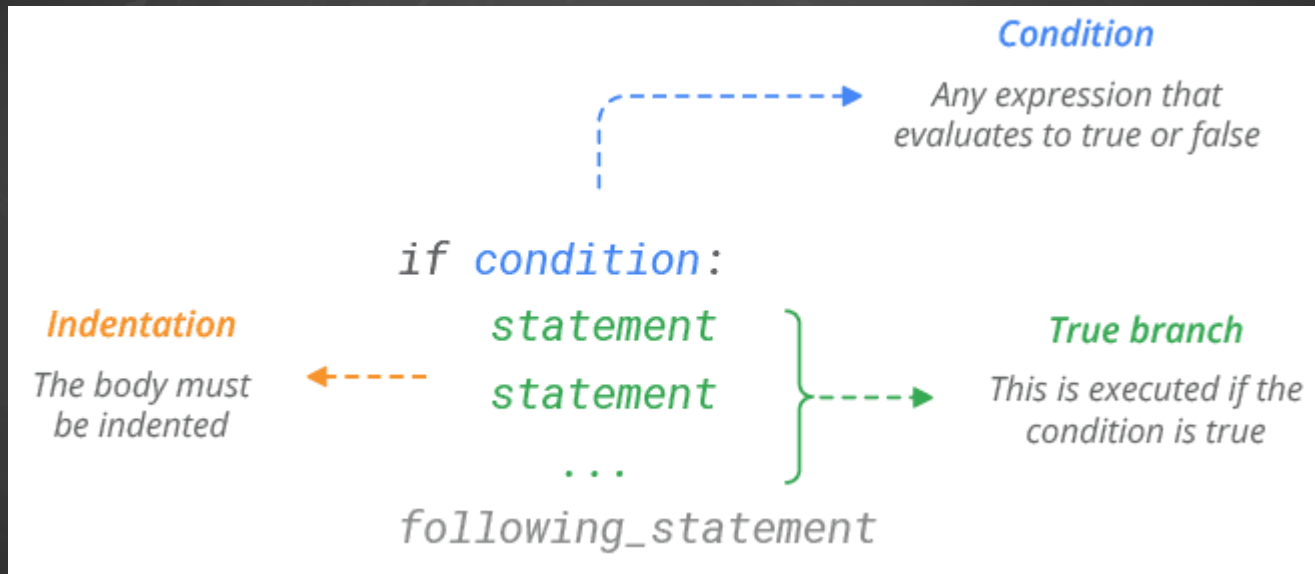
Buatlah fungsi untuk menghitung

luas  
Keliling

Dari suatu persegi Panjang, dimana Panjang dan lebar merupakan inputan, sedangkan outputnya adalah luas dan keliling yang dipanggil dari fungsi yang dibuat

# 03 Condition





# Tugas

Buatlah program dengan ketentuan

Input : angka 1 sampai dengan 10

Output : jika input 1 maka outputnya : angka satu  
jika input 2 maka outputnya : angka dua  
dst

```
if condition:
```

```
    statement
```

```
    statement
```

```
    ...
```



*True branch*

*This is executed if the  
condition is true*

```
else:
```

```
    statement
```

```
    statement
```

```
    ...
```



*False branch*

*This is executed if the  
condition is false*

```
following_statement
```

```
if condition:
```

```
    statement
```

```
    statement
```

```
    ...
```

*First condition*

*This is executed if the  
first condition is true*

```
elif condition:
```

```
    statement
```

```
    statement
```

```
    ...
```

*New condition*

*A new condition  
to test if previous  
condition isn't true*

```
else:
```

```
    statement
```

```
    statement
```

```
    ...
```

*False branch*

*This is executed if none  
of the conditions are true*

```
following_statement
```

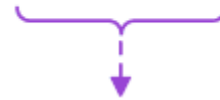
## Conditional Expressions (ternary operator)

```
variable = statement if condition else statement
```



**True branch**

*Execute this statement,  
if the condition is true*



**False branch**

*Execute this statement,  
if the condition is false*





04

Loop

### Condition

Any expression that evaluates to true or false

```
while condition:
```

```
    statement  
    statement  
    ...
```

### Indentation

Loop body must be indented

### Loop body

It is executed as long as the condition is true

```
else:
```

```
    statement  
    ...
```

### Else clause

It is executed if the condition becomes false

```
following_statement
```



## Var

*It takes items from  
iterable one by one*

## Iterable

*It's a collection of objects  
(like a list, tuple etc.)*

```
for var in iterable:
```

```
    statement  
    statement  
    ...
```

```
else:
```

```
    statement  
    ...
```

```
following_statement
```

## Indentation

*Loop body must  
be indented*

## Loop body

*It is executed once for  
each item in iterable*

## Else clause

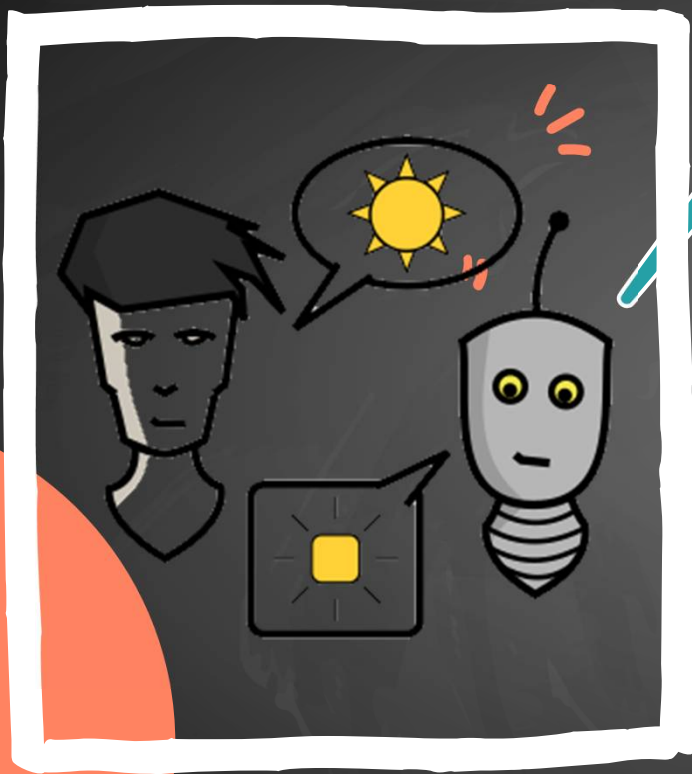
*It is executed if the loop  
terminates naturally*



# Tugas

Jumlah 4 buah bilangan kuadrat pertama adalah 30 dimana didapatkan dari  $1+4+9+16=30$ , buatlah program untuk dapat mengetahui jumlah bilangan kuadrat sesuai inputan (for & while)

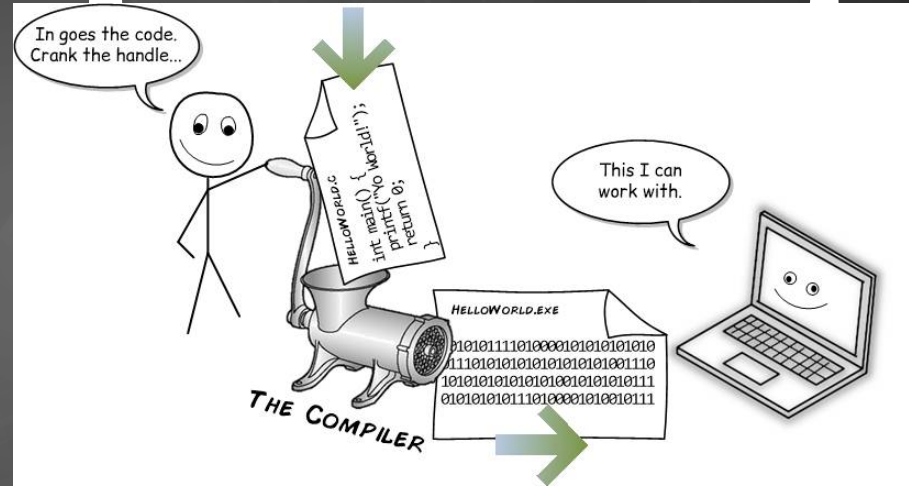
# 05 Computer Logic vs Bitwise



## Types of Bitwise Operators

Operator	Name	Example	Result
&	Bitwise AND	6 & 3	2
	Bitwise OR	10   10	10
^	Bitwise XOR	2 ^ 2	0
~	Bitwise 1's complement	~9	-10
<<	Left-Shift	10 << 2	40
>>	Right-Shift	10 >> 2	2

# 06 List





## Python List Methods

Method	Description
append()	Adds an element at the end of the list
clear()	Removes all the elements from the list
copy()	Returns a copy of the list
count()	Returns the number of elements with the specified value
extend()	Add the elements of a list (or any iterable), to the end of the current list
index()	Returns the index of the first element with the specified value
insert()	Adds an element at the specified position
pop()	Removes the element at the specified position
remove()	Removes the item with the specified value
reverse()	Reverses the order of the list
sort()	Sorts the list



07

Slices

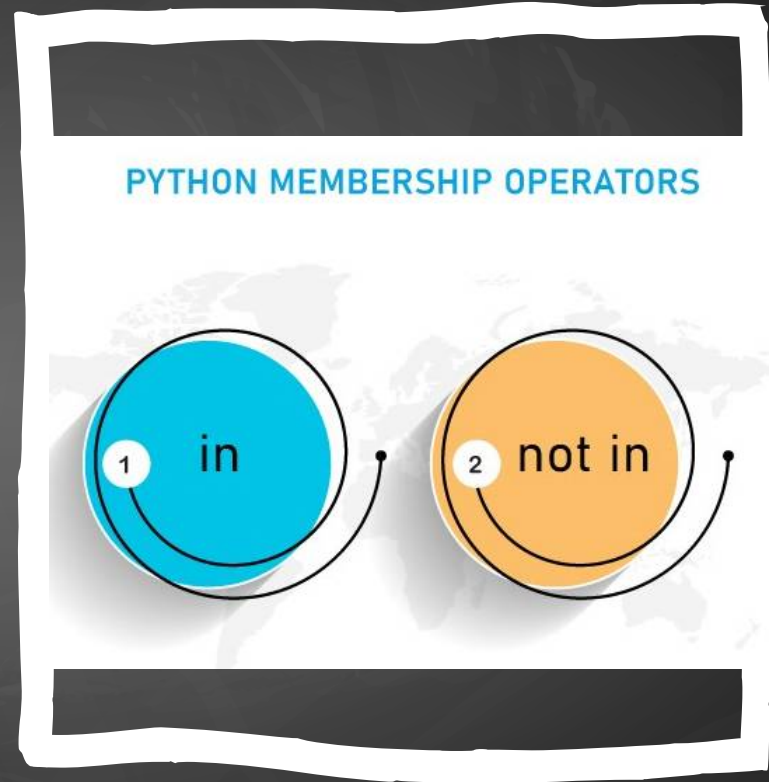
# `L[start:stop:step]`

*Start position*

*End position*

*The increment*

# 08 In And Not In



Operator	Description
in	It evaluates to true if it finds a variable in the specified sequence. Otherwise, to false.
not in	It evaluates to true if it does not find a variable in the specified sequence. Otherwise, to false.



09

Array

List	Array
Can consist of elements belonging to different data types	Only consists of elements belonging to the same data type
No need to explicitly import a module for declaration	Need to explicitly import a module for declaration
Cannot directly handle arithmetic operations	Can directly handle arithmetic operations
Can be nested to contain different type of elements	Must contain either all nested elements of same size
Preferred for shorter sequence of data items	Preferred for longer sequence of data items
Greater flexibility allows easy modification (addition, deletion) of data	Less flexibility since addition, deletion has to be done element wise
The entire list can be printed without any explicit looping	A loop has to be formed to print or access the components of array
Consume larger memory for easy addition of elements	Comparatively more compact in memory size



# Tugas

Buatlah program untuk menghitung luas & keliling bangun datar dengan pilihan bangun:

Persegi

Persegi Panjang

Luas dan keliling memakai fungsi, sedangkan sisi-sisinya merupakan inputan, setelah selesai, ada pertanyaan mau mengulang proses ? Jika dijawab ya, maka akan mengulang pilihan yang ada

# Contact

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**Thank You!**