Basic Programming 1: Conditions

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Hello!
I am Agil Haykal

I am a Data expert with extensive experience in multiple industries such as marketplace, insurance, banking, general taxation, consulting, and training.

In total, I trained more than 300 data scientists, engineers, and analysts.

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Paradox of the Day

Cowok selalu salah dan cewek selalu benar

Jadi kalau cowok bilang:

“Cewek itu selalu benar”.

Apakah cowok salah?

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Table of Content

What will We Learn Today?

Conditional Statement

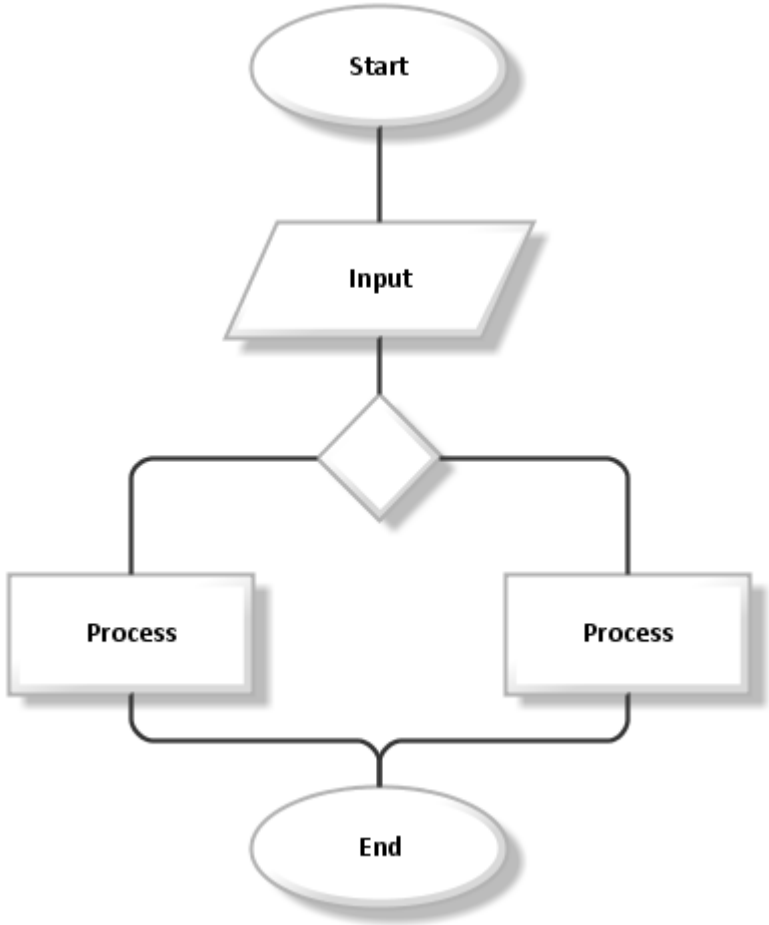
Conditional Statement is a statement that achieved by selectively **choosing condition** based on True or False.

- If Statement
- If Else Statement
- Elif Statement

Pseudocode

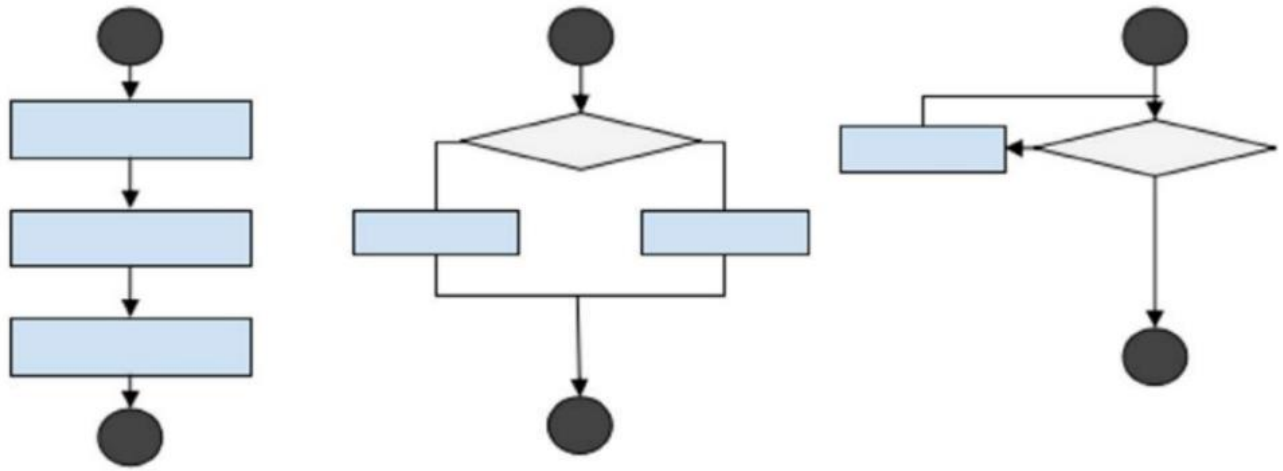
Pseudocode is a plain language description of the steps in an algorithm or another system. Usually the proper way to express pseudocode is by Flowchart.

Flowchart is a diagram of the sequence of movements or actions of people or things involved in a complex system or activity.



Control Flow

- Control Flow is the order in which the program's code executes.
- The control flow of a python is regulated by conditional statements, loops, and function calls.
- Python has 3 types of control structure.

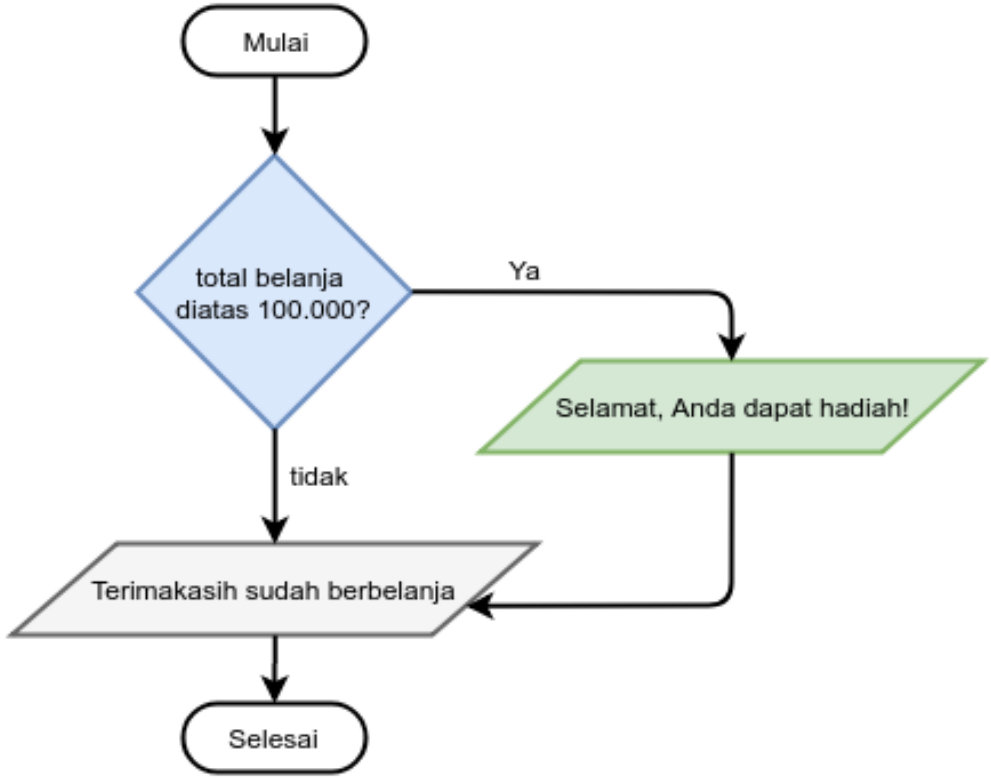


Control Flow

if total belanja > 100000

“Selamat, Anda dapat hadiah!”

“Terima kasih sudah berbelanja”



Conditions in Python

In Python, the if statement is how you perform this sort of **decision-making**.

- It contains a code which runs only when the condition given in the if statement is true.
- If the condition is false, then the optional else statement runs which contains some code for the else condition.

```
if <expression>
        <statement A>
else
        <statement B>
```

Conditions in Python

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Python supports the logical conditions from mathematics:

- Equals: **a == b**
- Not Equals: **a != b**
- Less than: **a < b**
- Less than or equal to: **a <= b**
- Greater than: **a > b**
- Greater than or equal to: **a >= b**

And also, here is the logical operators that can be used:

- True if both the operands are true: **and**
- True if either of the operands is true: **or**
- True if operand is false (complements the operand): **not**

If Statement

An **if statement** consists of a boolean (True or False) expression followed by one or more statements.

∴ If **True**, then run command inside it

```
x = 5
if x == 5:
    print('You are Right')
```

```
You are Right
```

∴ If **False**, then run nothing

```
x = 4
if x == 5:
    print('You are Right')
```

∴ A statement can have 2 or more condition

```
x = 8
if (x > 5) and (x < 10):
    print('You are Right')
```

```
You are Right
```

If Else Statement

An if statement can be followed by an optional **else statement**.

.:. If first statement **True**, then run command inside it

```
x = 5
if x == 5:
    print('You are Right')
else:
    print('You are Wrong')
```

```
You are Right
```

.:. If first statement **False**, then run second command

```
x = 4
if x == 5:
    print('You are Right')
else:
    print('You are Wrong')
```

```
You are Wrong
```

Elif Statement

An else statement can be **combined** with an if statement.

.:. If first statement **True**, then run command inside it

```
x = 4
if x == 5:
    print('You are Right')
elif x < 5:
    print('Smaller than five')
else:
    print('Bigger than five')
```

```
Smaller than five
```

Nested If

Nested if is a combination of 2 or more conditional statement.

Note:

Make sure not to leave any blank or missing condition.

```
x = 50

if x > 20:
  print("Above twenty, ")
  if x > 40:
    print("and also above 40")
  else:
    print("but not above 20")
else:
  print("Below twenty")

Output: Above twenty, and also above 40
```

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Thank YOU