



Python – Introduction

READY TO START?



السلام عليكم

Doa ilmu bermanfaat

رَبِّ زِدْنِي عِلْمًا وَارْزُقْنِي فَهْمًا وَاجْعَلْنِي مِنَ الصَّالِحِينَ

Robbi zidnii 'ilmaa warzuqnii fahmaa, waj'alnii minash-shoolihiin

"Ya Allah, tambahkanlah aku ilmu dan berikanlah aku rezeki akan kepehaman, dan jadikanlah aku termasuk golongan orang-orang yang saleh."

As Saffat ayat 6

إِنَّا زَيْنَّا السَّمَاءَ الدُّنْيَا بِزِينَةِ الْكَوَاكِبِ

Sesungguhnya Kami telah menghiasi langit dunia (yang terdekat) dengan hiasan (berupa) bintang-bintang.

PAY ATTENTION!



RULES

for Teacher & Student

- Prepare Laptop / PC
- Focus & Listen carefully
- Open Cam and Mic
- Share screen project
- Good Communication
- Respect and kindness
- Do your best

In this lesson, you will learn about

1. Python Introduction
2. Basic Syntax
3. Statement
4. Comments
5. `print()` function
6. Variable
7. `input()` function



Introduction

Python is a high-level, general-purpose programming language.

Its design philosophy emphasizes code readability with the use of significant indentation.

We use python language to tell a computer to run commands, this activity called **programming**



Python Usage

At least there are two ways to program using python language

1. Interactive Mode

is a command line shell which gives immediate feedback for each statement, while running previously fed statements in active memory.

1. Scripting Mode

is the mode where the scripted and finished .py files are run in the Python interpreter.



Python - Interactive Mode

Interactive Mode is a command line shell which gives immediate feedback for each statement, while running previously fed statements in active memory.

```
Python 3.10.9 (main, Jan 26 2023, 11:22:09) [GCC 10.2.1 20210110] on linux
Type "help", "copyright", "credits" or "license" for
more information.
>>>      I
```



Python - Scripting Mode

Scripting Mode is the mode where the scripted and finished .py files are run in the Python interpreter.



```
# python file, named main.py

print("Hello World!")
print("Welcome to Python Programming Language")

a = 25
b = 80
c = a + b

print("Python can operate like this:")
print(f"{a} + {b} = {c}")
```



```
$ python main.py
Hello World!
Welcome to Python Programming Language
Python can operate like this:
25 + 80 = 105
```



Where to program

There are so many tools we can use to type and run python syntax, for example:

1. replit.com
2. onlinegdb.com
3. pynative.com
4. many more . . .

And even we can type and run our python code in our own PC or Laptop.

All we need to do is just


1. [download](#) the latest python interpreter
2. Use [text editor](#), to type our code

in our PC or Laptop, we can both use interactive or scripting mode



Basic Syntax

Python design philosophy emphasizes code readability with the use of significant indentation.



```
# python basic syntax

# display an output
print("Hello World!")

# create a variables with values
a = 15
b = 85

# operating variables
c = a + b

# python indentation
# blocks of code are denoted by line indentation
if b > a:
    print("b value is bigger")
```



Statement

A Python statement is an instruction that the Python interpreter can execute.



```
# python statement

# print statement
print("Hello World!")

# define variables and values
a = 15
b = 85

# operation statement
c = a + b

# if / conditional statement
if b > a:
    print("b value is bigger")
```



Syntax Errors

When you mistype the statement, it will return an error



```
# these statements are mistyped  
# they will return errors
```

```
# print statement  
print("Hello World!)
```

```
# define variables and values  
a 15  
b equals 85
```

```
# operation statement  
c = a + b =
```

```
# if / conditional statement  
if b > a  
    prnt("b value is bigger")
```



Comments

A comment is ignored by Python interpreter. It will not execute the line or statement when it is commented

It is also used to add readable note to programmer.



```
# all comments will not be executed
```

```
# Single line comment
```

```
# print("Hello World!")
```

```
# the statement won't be executed
```

```
"""
```

```
Multiline comment
```

```
"""
```

```
print("Hello World!") # inline comment
```



print() function

print() function (or syntax) is used to display specified message to the screen, or other standard output device.



```
# print() function

# regular statement
print("Hello World!")

# print 2 different texts in a time
print("Hello", "World!")

# concatenate "Hello", " ", "World!"
print("Hello" + " " + "World!")

# print "Hello", end it with white space
# default value of end = "\n"
# "\n" means new line
print("Hello", end=" ")
print("World!")

# print 2 different texts in a time
# separate them with underscore symbol
print("Hello", "World!", sep="_")
```



Variables

Variables are containers for storing data values.



```
# Variables

# assigning values into variables
number1 = 11
number2 = 12


# operating 2 variables
# store them in a variable
result = number1 + number2

# can contain another data type
name = "Jaka"
```



input() function

Python input() function is used to take user input. By default, it returns the user input in form of a string.



```
# input() function

# basic input statement
input("What is your name?")


# store input value into variable
name = input("What is your name?")
# print 'name' variable
print(name)

# accept only integer data type
number1 = int(input("Enter a number"))
print(number1)
```



input() function

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```
# input() function

# basic input statement
input("What is your name?")

# store input value into variable
name = input("What is your name?")
# print 'name' variable
print(name)

# accept only integer data type
number1 = int(input("Enter a number"))
print(number1)
```



Project

Let's create a project based on the case!

Case = Welcome Message

- Create a new file called `welcome.py`
- Print many texts to display welcome messages

Conclusion

- Python is one of a programming languages we can use to communicate with computer
- Communicating with computer means, programming. It means, we can tell computer to run the commands we give to it.
- Python design philosophy emphasizes code readability with the use of significant indentation.
- Basic syntax like, `print()`, assigning value to variables, `input()` are keywords we will often use to program with python

