



# Python – Data Types

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 kepeahaman, 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. Data Types
2. Get Data Types
3. Set Data Types
4. Convert Data Types



# Introduction

A data type is an attribute associated with a piece of data that tells a computer system how to interpret its value.

In programming, data type is an important concept.

Variables can store data of different types, and different types can do different things.



# Introduction

Python has the following data types built-in by default, in these categories:



## # Python Data Types

Type	Data Types
=====	=====
Text	str
Numeric	int, float, complex
Sequence	list, tuple, range
Mapping	dict
Boolean	bool
NoneType	None



# Get Data Type

To find out what data type in the data, we can use `type()` function



```
# Get Data Types
```

```
name = "Jaka"  
print(type(name))
```

```
number1 = 150  
print(type(number1))
```

```
number2 = 12.5  
print(type(number2))
```

```
fruits = ["apple", "banana", "cherry"]  
print(type(fruits))
```

```
active = True  
print(type(active))
```

```
car_model = None  
print(type(car_model))
```





# Set Data Type

Setting data type is just about assigning value with a proper data-type-way

```
# Set Data Type

# str, use "" or ''
name = "Jaka"
print(type(name))

# int, only numbers
number1 = 150
print(type(number1))

# float, numbers with floating point
number2 = 12.5
print(type(number2))

# list, many values stored inside [ ]
fruits = ["apple", "banana", "cherry"]
print(type(fruits))

# boolean, True or False
active = True
print(type(active))


# None, to set a None or Null value
car_model = None
print(type(car_model))
```





# Convert Data Type

A data type can be converted into another data type by using its constructor function



```
# Converting Data Types
integer = 150
float_num = 13.6
string = "Welcome"

# to string, str()
string1 = str(integer)
string2 = str(float_num)

# to list, list()
list1 = list(string)

# to float, float()
number1 = float(integer)

# to integer, int()
number2 = int(float_num)
```

Not all data types can be converted to any data types



# Project

Let's create a project based on the case!

## Case = Data Type List

- Create a new file called `python-data-types.py`
- Create 5 variables with its values in various data types
  - String
  - Integer
  - Float
  - Boolean
  - None
- Print each values followed by its data type using `type()` function

## Conclusion

- A data type is an attribute associated with a piece of data that tells a computer system how to interpret its value.
- Variables can store data of different types, and different types can do different things.
- To find out what data type it is, we can use `type()` function
- Setting data type is just about assigning value with a proper data-type-way
- Converting data type is allowed using its data type constructor, but not all data types can be converted into any data types

