

Bahan Ajar

Chapter 4



Materi Pembelajaran

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Tugas Mandiri

Built-in Data Types

In programming, data type is an important concept. Variables can store data of different types, and different types can do different things. Python has the following data types built-in by default, in these categories:

Text Type:

`str`

Numeric Types:

`int`, `float`, `complex`

Sequence Types:

`list`, `tuple`, `range`

Mapping Type:

`dict`

Set Types:

`set`, `frozenset`

Boolean Type:

`bool`

Binary Types:

`bytes`, `bytearray`, `memoryview`

Getting the Data Type

You can get the data type of any object by using the `type()` function:

Example

Print the data type of the variable `x`:

```
x = 5  
print(type(x))
```

Setting the Data Type

In Python, the data type is set when you assign a value to a variable:

| Example | Data Type |
|--|----------------------|
| <code>x = "Hello World"</code> | <code>str</code> |
| <code>x = 20</code> | <code>int</code> |
| <code>x = 20.5</code> | <code>float</code> |
| <code>x = 1j</code> | <code>complex</code> |
| <code>x = ["apple", "banana", "cherry"]</code> | <code>list</code> |
| <code>x = ("apple", "banana", "cherry")</code> | <code>tuple</code> |
| <code>x = range(6)</code> | <code>range</code> |

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Setting the Data Type

In Python, the data type is set when you assign a value to a variable:

| | |
|---|------------|
| <code>x = {"name" : "John", "age" : 36}</code> | dict |
| <code>x = {"apple", "banana", "cherry"}</code> | set |
| <code>x = frozenset({"apple", "banana", "cherry"})</code> | frozenset |
| <code>x = True</code> | bool |
| <code>x = b"Hello"</code> | bytes |
| <code>x = bytearray(5)</code> | bytearray |
| <code>x = memoryview(bytes(5))</code> | memoryview |

Python Numbers

There are three numeric types in Python:

int

float

complex

Variables of numeric types are created when you assign a value to them:

Example

```
x = 1      # int  
y = 2.8    # float  
z = 1j     # complex
```

Python Strings

Strings in python are surrounded by either single quotation marks, or double quotation marks.

'hello' is the same as "hello".

You can display a string literal with the print() function:

Example

```
print("Hello")  
print('Hello')
```

Escape Characters

| Code | Result |
|-------------------|-----------------|
| <code>\'</code> | Single Quote |
| <code>\\</code> | Backslash |
| <code>\n</code> | New Line |
| <code>\r</code> | Carriage Return |
| <code>\t</code> | Tab |
| <code>\b</code> | Backspace |
| <code>\f</code> | Form Feed |
| <code>\ooo</code> | Octal value |
| <code>\xhh</code> | Hex value |

Tugas Mandiri (teori):

1. Apa perbedaan bahasa pemrograman dan bahasa scripting?
2. Jelaskan tipe data dalam bahasa pemrograman Python di bawah ini:
Numbers, Strings, Escape Characters.

Tugas Mandiri (prakt):

Tuliskan dan jelaskan script program python untuk menuliskan identitas anda di terminal Raspberry Pi.

end

