

 hello\_world.py

# Python Programming with Algorithmic Approach Course

Teacher



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Code is poetry written  
for machines!

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# Variables

Variables are containers for storing data values.

## Creating Variables

Python has no command for declaring a variable.

A variable is created the moment you first assign a value to it.

Variable\_name = value

```
a = '3'  
b = 3  
c = 3.0  
x = str(3)  # x will be '3'  
y = int(3)  # y will be 3  
z = float(3) # z will be 3.0  
  
print(type(x))
```

## print and input functions (reminding)



hello.py



```
1 print("Hello world!")
```

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input\_value.py



```
1 # get an input and save the value in variable
```

```
2 variable = input("Give an input: ")
```

```
3 print(variable)
```

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# Data Types

## 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:	<code>str</code>
Numeric Types:	<code>int</code> , <code>float</code> , <code>complex</code>
Sequence Types:	<code>list</code> , <code>tuple</code> , <code>range</code>
Mapping Type:	<code>dict</code>
Set Types:	<code>set</code> , <code>frozenset</code>
Boolean Type:	<code>bool</code>
Binary Types:	<code>bytes</code> , <code>bytearray</code> , <code>memoryview</code>
None Type:	<code>NoneType</code>

# Operators

Operators are used to perform operations on variables and values.

Operator	Name	Example
+	Addition	$x + y$
-	Subtraction	$x - y$
*	Multiplication	$x * y$
/	Division	$x / y$
%	Modulus	$x \% y$
**	Exponentiation	$x ** y$
//	Floor division	$x // y$

# Operators

Operator	Example	Same As
=	x = 5	x = 5
+=	x += 3	x = x + 3
-=	x -= 3	x = x - 3
*=	x *= 3	x = x * 3
/=	x /= 3	x = x / 3
%=	x %= 3	x = x % 3
//=	x //= 3	x = x // 3
**=	x **= 3	x = x ** 3
&=	x &= 3	x = x & 3
=	x  = 3	x = x   3
^=	x ^= 3	x = x ^ 3
>>=	x >>= 3	x = x >> 3
<<=	x <<= 3	x = x << 3

# Operators

Operator	Name	Example
==	Equal	<code>x == y</code>
!=	Not equal	<code>x != y</code>
>	Greater than	<code>x &gt; y</code>
<	Less than	<code>x &lt; y</code>
>=	Greater than or equal to	<code>x &gt;= y</code>
<=	Less than or equal to	<code>x &lt;= y</code>

Python Conditions and If statements

Python supports the usual 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`

These conditions can be used in several ways, most commonly in "if statements" and loops.

An "if statement" is written by using the `if` keyword.



## If ... Else

```
if condition1:
    # code 1
    pass
elif condition2:
    # code 2
    pass
else:
    # code 3
    pass
```



## References

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# THANKS!

Do you have any questions?



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Telegram support group

