

### Hello World in Python

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

### Python Comments

#### Example 1

```
#This is a comment
```

#### Example 2

```
#This is a comment
#written in
#more than just one line
```

#### Example 3

```
" " " This is a comment
written in
more than just one line " " "
```

### Python Variables

```
x = "How old are you ?" #x is of type str
print(x)
>>> How old are you ?
x = 25 #x now is of type int
print(x)
>>> 25
```

### Python Data Types

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

#### Get the data type of a variable "var"

```
type(var)
```

### Python Data Types Examples

### Python Casting

Casting is used to specify a type on to a variable and this is done using constructor functions.

#### Examples

```
x = int(5)      #x = 5
x = int(2.8)    #x = 2
x = float(5)    #x = 5.0
x = float(2.8) #x = 2.8
```

### Python Strings

Operations on strings and examples:

#### Multiline strings

```
x = " " " This is a
multiline string " " "
```

#### Get the character at a specific position

```
x = " Python Progra mmi ng"
print( x[1])      #print character at position 1
>>> y
```

#### Slicing

```
x = " Python Progra mmi ng"
print( x[3:5])
>>> ho
```

#### Negative Indexing

```
x = " Python Progra mmi ng"
print( x[- 15: -13])
>>> ho
```

#### String Length

```
x = " Hel lo"
print( len(x))
>>> 5
```

#### Remove any whitespace from the beginning or the end

```
x = " Hello "
print( x.strip())      #return " Hel lo"
```

#### Return the string in lower case

```
x = Hello
print( x.lower())      #return " hel lo"
```

### Python Strings

Example	Data Type
<code>x = " Co lor "</code>	list
<code>x = 1</code>	int
<code>x = 1.2</code>	float
<code>x = 2j</code>	complex
<code>x = ["Bl ue ", " Red ", " Ye l lo w"]</code>	list
<code>x = ("Bl ue", " Red ", "Ye llo w")</code>	tuple
<code>x = range(8)</code>	range
<code>x={" Age " :25 , "He igh t":1.72}</code>	dict
<code>x = {"Pi nk", " Red "}</code>	set
<code>x = frozen set ({"P ink " ,"Re d"})</code>	frozenset
<code>x = True</code>	bool
<code>x = b"Co lor "</code>	bytes
<code>x = bytearray(8)</code>	bytearray
<code>x = memory vie w(b yte s(8))</code>	memoryview

**Get the data type of x :**

```
x = " Col or"
print( typ e(x))
>>> str
```

<p><b>Return the string in upper case</b></p> <pre>x = Hello print( x.u pper()) #return " HEL LO"</pre>
<p><b>Replace a string with another string</b></p> <pre>x = " Hel lo" print( x.r epl ace ("He ", "A")) #return " All</pre>
<p><b>Choose a separator and split string into substrings</b></p> <pre>x = " Python Progra mmi ng" print( x.s pli t(" ")) # return ['Python' , 'Progr a g']</pre>
<p><b>Check if a string is present in a text</b></p> <pre>txt = " Tunisia is a North African countr y" x = " Nor th" in txt print(x) # return True</pre>
<p><b>Concatenation</b></p> <pre>x = " Hel lo" y = " Wor ld" z = x + " " + y print(z) # return " Hello World"</pre>
<p><b>Insert numbers into strings</b></p> <pre>quantity = 3 itemno = 567 price = 49.95 myorder = "I want {} pieces of item {} for {} dollar print(myorder.format(quantity, itemno, price))</pre>



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