

Python Variables

What's in it for you?

- ▶ What is a variable?
- ▶ Data types of variables
- ▶ Rules for naming variables
- ▶ Arithmetic operations with integer and float variables
- ▶ Operations on string variables
- ▶ Exercise on Strings



PYTHON VARIABLES



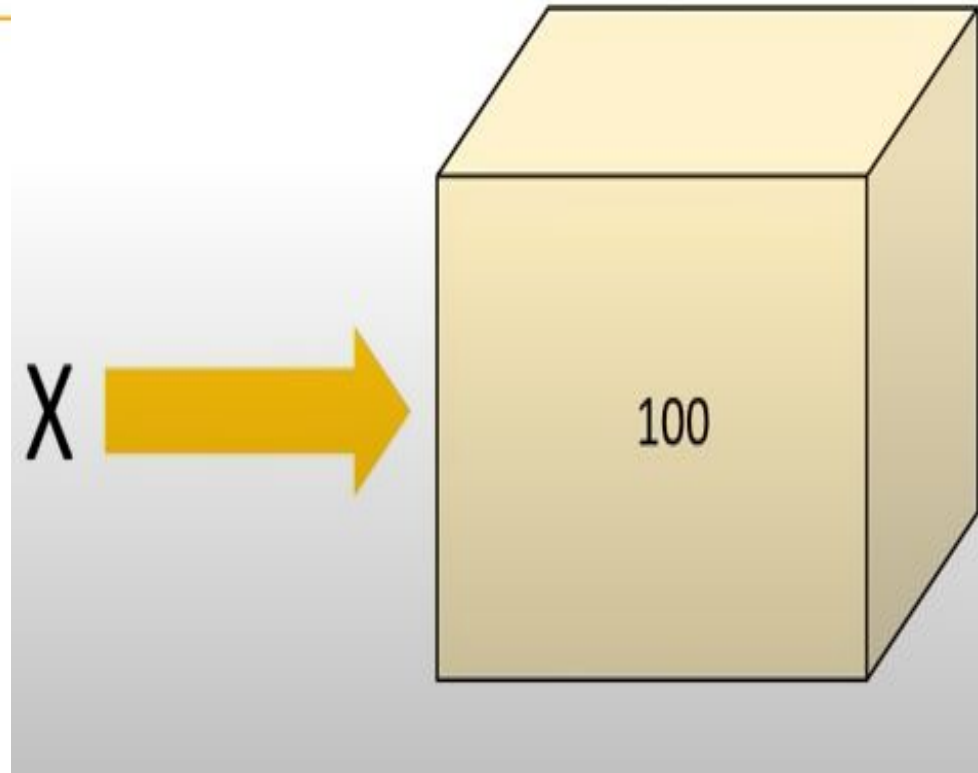
A variable is a fundamental concept in any programming language. It is a reserved memory location that stores and manipulates data.

What is a variable?

X=100



Variables are entities of a program that hold a value



The box is holding a value. Variable would be the name given to the box

Rules for naming variables



Variable name must begin with an alphabet or an underscore (_)

abc



_abc



3a



@abc



Rule for naming variables

```
In [31]: abc=100
```

```
In [32]: _abc=10
```

```
In [33]: 3a=10
```

```
File "<ipython-input-33-7fa73063c96a>", line 1
```

```
  3a=10
```

```
    ^
```

```
SyntaxError: invalid syntax
```

```
In [34]: @abc=10
```

```
File "<ipython-input-34-bef97f406f33>", line 1
```

```
@abc=10
```

```
    ^
```

```
SyntaxError: invalid syntax
```


Rules for naming variables



The first character can be followed by alphabets, numbers or underscore

a100 ✓

a984 ✓

a9967\$ ✗

xyz-2 ✗

```
In [35]: a100=100
```

```
In [36]: _a984_=100
```

```
In [37]: a9967$=100
```

```
File "<ipython-input-37-71ec557f4e0e>", line 1
```

```
a9967$=100
```

```
^
```

```
SyntaxError: invalid syntax
```

```
In [38]: xyz-2=100
```

```
File "<ipython-input-38-db55add84b27>", line 1
```

```
xyz-2=100
```

Rules for naming variables

3

Variable names are case sensitive

a100 is different from A100

```
In [39]: a100=100  
         A100=200
```

```
In [40]: print(a100, A100)
```

```
100 200
```

Rules for naming variables



Reserved words cannot be used as variable names

break, class, try

```
In [41]: break=10
          File "<ipython-input-41-f29ea38ec5bd>", line 1
            break=10
              ^
          SyntaxError: invalid syntax
```

```
In [42]: class=5
          File "<ipython-input-42-6b3d2e7f00f5>", line 1
            class=5
              ^
          SyntaxError: invalid syntax
```

```
In [43]: try=100
          File "<ipython-input-43-1bc11b1c4d3e>", line 1
            try=100
              ^
          SyntaxError: invalid syntax
```


False	await	else	import	pass
None	break	except	in	raise
True	class	finally	is	return
and	continue	for	lambda	try
as	def	from	nonlocal	while
assert	del	global	not	with
async	elif	if	or	yield