

PYTHON

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HISTORY

- Guido Van Rossum
- Amoeba distributed operating system group
- Rossum was fan of a comedy series from late seventies.



Version	Release Data
Python 1.0 (first standard release)	January 1994
Python 1.6 (Last minor version)	September 5, 2000
Python 2.0 (Introduced list comprehensions)	October 16, 2000
Python 2.7 (Last minor version)	July 3, 2010
Python 3.0 (Emphasis on removing duplicative constructs and module)	December 3, 2008
Python 3.5 (Last updated version)	September 13, 2015

WHO USE PYTHON?

- **Google** - Python is one of the key language used in google.
- **Philips** - Philips uses Python for the sequencing language
- **Quora** - Quora also chose Python for its development
- **NASA** - Johnson Space center uses Python in its Integrated Planning System as the standard scripting language
- **Walt Disney Feature Animation** - Walt Disney Feature Animation is also using Python to make their animation production system more efficient in scripting.
- **Instagram** - Instagram also uses Python for its backend
- **YouTube , DropBox, Pinterest**

APPLICATION OF PYTHON

Web Applications

- You can create scalable Web Apps using frameworks and CMS (Content Management System) that are built on Python.
- Some of the popular platforms for creating Web Apps are:
- Django, Flask, Pyramid, Plone, Django CMS.

APPLICATION OF PYTHON

- **Scientific and Numeric Computing**
- There are numerous libraries available in Python for scientific and numeric computing.
- There are libraries like: SciPy and NumPy that are used in general purpose computing. And, there are specific libraries like: EarthPy for earth science, AstroPy for Astronomy and so on.

APPLICATION OF PYTHON

- **Scientific and Numeric Computing**
- machine learning, data mining and deep learning.

APPLICATION OF PYTHON

- **Image Processing and Graphic Design Applications:**
- Python has been used to make 2D imaging software such as Inkscape, GIMP, Paint Shop Pro and Scribus.

APPLICATION OF PYTHON

- **Games**
- Python has various modules, libraries and platforms that support development of games.
- PySoy is a 3D game engine supporting Python 3, and PyGame provides functionality and a library for game development.

2 REASONS TO CHOOSE PYTHON AS FIRST LANGUAGE

- Easy to write
- It's easier to understand and write Python code.
- `print("Hi")`
- `A=5`

2 REASONS TO CHOOSE PYTHON AS FIRST LANGUAGE

- Not overly strict
- There is not need to define the type of a variable in Python.
- No semicolon at the end of the statement.
- Python enforces us to proper indentation.

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ADVANTAGES

Interpreted
Object-Oriented
Portable
Extendable

print

```
print ("Hello World!")
print ("I am Shyam Sir")
print ("Hum hai rahi pyar ke!!!!")
print "Hi!!!!"
```

print

```
x=5  
y=20  
print("X = ",x,"Y = ",y)  
print("Add = ",(x+y))  
print("Sub = ",(x-y))  
print("Multi = ",(x*y))  
print("Div = ",(x/y))
```

print

x,y,z=10,’ram”,20
x=y=z=200

print

```
a = "Hey All of you"
```

```
b = 100
```

```
pi = 3.14
```

```
print("Type of A = ",type(a))
```

```
print("Type of B = ",type(b))
```

```
print("Type of PI = ",type(pi))
```

Identifiers rules

Identifiers can be a combination of letters in lowercase (a to z) or uppercase (A to Z) or digits (0 to 9) or an underscore (_).

myClass, a_I ,firstName_last_name

Keyword should not be used as an identifier name.

Identifiers are unlimited in length.

Case is significant.



KEEP
CALM
AND
FOLLOW
RULES

Keywords

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

Variable

x=y=z=50

del x,y,z

a,b,c=5,10,"ram"

name='ram'

a="Raj"

PI=3.14

Standard Data Types

Numbers - int ,long ,float ,complex

String

List

Tuple

Dictionary

Some

```
total = a + \  
       b + \  
       c
```

```
total = (1 + 2 + 3 +  
         4 + 5 + 6 +  
         7 + 8 + 9)
```

Some

word = 'word'

sentence = "This is a sentence."

**paragraph = """Multiline
statements you can write here"""**

Comments

```
# Single Line Comment
print "Hello, Python!" # Single Line
Comment
# Multiline Comment
# Multiline Comment
# Multiline Comment
```

Operators

Arithmetic Operators
Comparison (Relational) Operators
Assignment Operators
Logical Operators
Bitwise Operators
Membership Operators
Identity Operators

Arithmetic Operators

a+b,a-b,a*b,a/b,a%b

ab exponential**

**9//2 = 4 and 9.0//2.0 = 4.0 Floor
Division**

Arithmetic Operators

a+b,a-b,a*b,a/b,a%b

ab exponential**

**9//2 = 4 and 9.0//2.0 = 4.0 Floor
Division**

Comparison Operators

< > == != >= <=

Logical Operators

and or not

Identity Operators

x = 'Hello world'

print('H' in x)

print('hello' not in x)

String

X=“Ram”

Y=“Laxman”

Z=x+” “ + y

X=“Khadak sing ke khidak ne se”

print(X[2]) //slice function

print(X[0:2])

print(X[0:5])

print(X[2:])

print(X[-2])

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String

X=“Ram”

Y='Ram'

X=“Ram\s”

Y='Ram\s'

Place Holders

```
sen="Hello %s,Good Morning"  
print(sen%'Ram')) //placeholder
```

```
arr=['Ram','Laxman','Jack']  
for i in arr:  
    print(sen%(i))
```

```
sen="Hello %s %s,Good Morning"  
print(sen%("Narendra","Modi"))  
sen="I am %s and my age is %d"  
sen%("Ram",21)
```

If ...elif...else

If ...elif...else

```
a=int(input("enter the value"));
b=int(input("enter the value"));
c=int(input("enter the value"));
if(a>b and a>c):
    print("a is max",a)
elif (b>a and b>c):
    print("b is max",b)
else:
    print("c is max",c)
```

For...loop

```
a=int(input("enter the value"));
```

```
for b in range(1,11):
```

```
    print(b);
```

```
for val in "string":
```

```
    if val == "i":
```

```
        break
```

```
    print(val)
```

```
print("The end")
```

While

```
sum = 0
```

```
i = 1
```

```
while i <= n:
```

```
    sum = sum + i
```

```
    i = i+1
```

```
print("The sum is", sum)
```

Bool() and Abs()

bool(5)

abs(-5)

eval("5+2-3")

program = 'a = 5\nb=10\nprint("Sum =", a+b)'

exec(program)

ANY QUERY?

