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Introduction to Python

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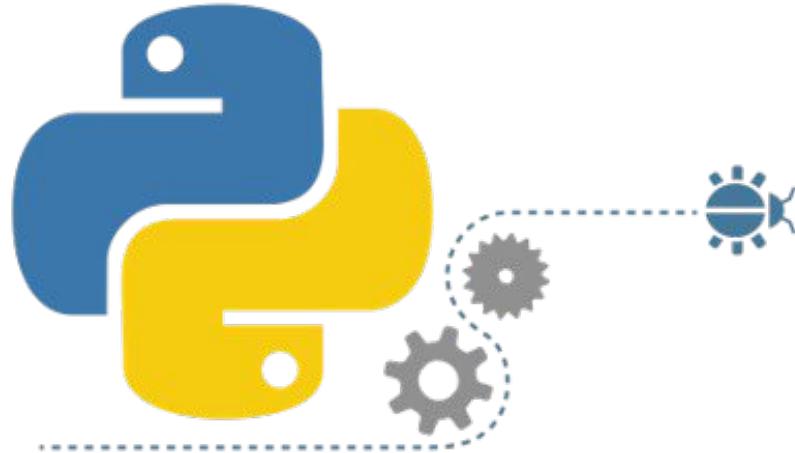
CSA101 : Problem Solving with
Programming



Welcome today's special Guest!



Why Learn Python ?



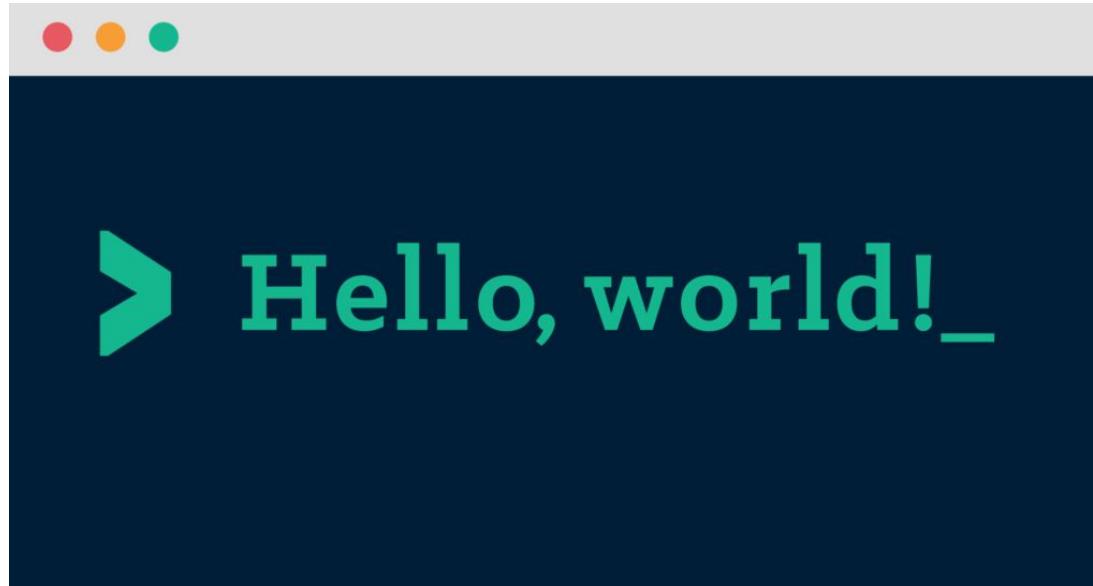
Why Learn Python ?

Python is chosen for its **simplicity, readability, and extensive library support**, making it ideal for both beginners and experienced developers.



Hello World :)

Why do we start with Hello World ?



Why do we start with Hello World ?

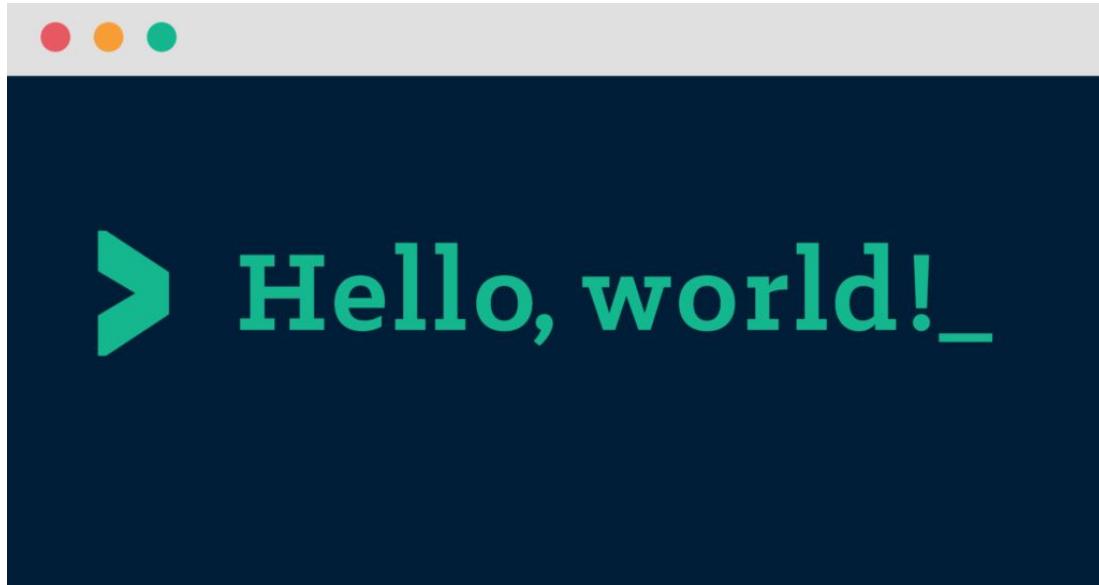
History :

"Hello, World!" program first appeared in the 1972 book "A Tutorial Introduction to the Programming Language" by Brian Kernighan.

Tradition:

"Hello, World!" serves as a shared experience that unites all programmers.

Let's print :



print() Function

print() is a built-in function that **outputs the specified message** to the screen

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

Using print() function



```
print("Hello, Python!")
```

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



```
print('Hello World')
```



Spot the error :

```
print('Hello World')
```

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



```
print('Hello World')
```



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



Q1. Print Newton School

Let's Practice on Playground!

Printing Numbers :

```
print(5)
```

```
print(3.14)
```

Printing Numbers :

`print(5)` vs `print("5")`

Printing Multiple Items :

```
print(5,7,9)
```

```
print("Hello",10)
```

Print Multiple Times :

```
print("GG"*5)
```

Newline Character – \n

Newline Character: \n

```
print("Hello\nWorld")
```

```
print("Line1\nLine2\nLine3")
```

Newline Character: \n

```
print("Shopping List:\n- Apples\n- Bananas\n- Oranges")
```

Shopping List:

- Apples
- Bananas
- Oranges

Default :

```
end="\n"
```

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

```
print("world!")
```

**Print both on same line ,
possible ?**

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

**Print both on same line ,
without using “\n” , possible ?**

```
print("Hello",end="")
```

```
print("world!")
```

`end` in print()



```
1 print("Hello, world!", end="")
2 print("This is a single line.")
3
```

Output: Hello, world!This is a single line.

Default :

```
sep=" "
```

```
print(1,2,3)
```

**Print the numbers on same line,
without spaces. Possible ?**

```
print(1,2,3)
```

**Print the numbers on same line,
without spaces. Possible ?**

```
print(1,2,3,sep="")
```

Print the strings on same line,

Separated by `...` :

Output : Get...Set...Go

Print the strings on same line,

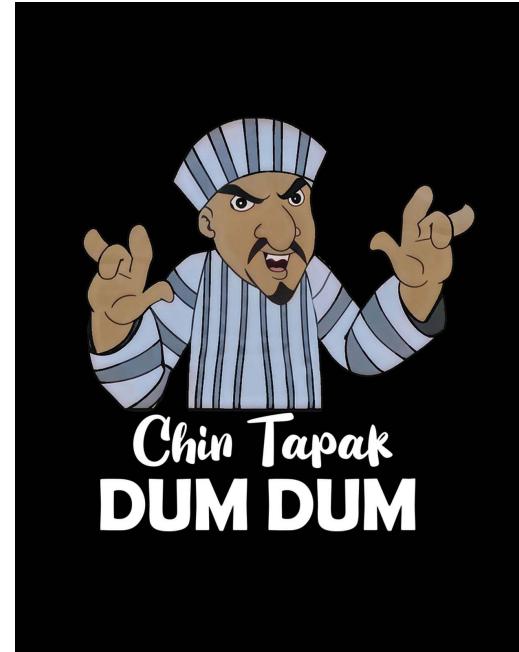
Separated by `...` :

Output : Get...Set...Go

```
print("Get", "Set", "Go", sep=". . .")
```

Using sep parameter:

Chin-Tapak-Dum-Dum



Using sep parameter:

```
print("Chin","Tapak","Dum","Dum",sep="-")
```

`sep` in print()



```
1 print("a", "b", "c" , sep="-", end=" ")
2 print("x", "y", "z", sep="-")
```

Output: a-b-c x-y-z

Examples :

code->eat->sleep->repeat<3

```
print("code","eat","sleep","repeat",sep="->",end=<3>)
```

Examples :

3...2...1...0

```
print("3","2","1","0",sep="...")
```

Examples :

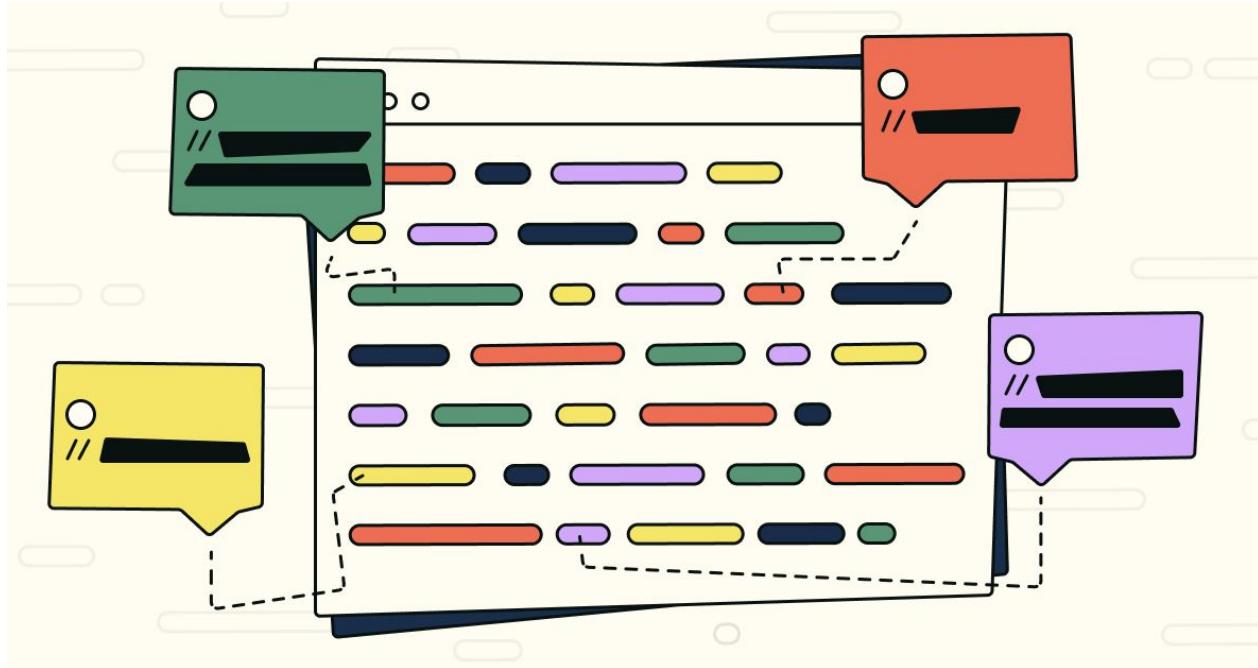
Jhumenge-Nachenge-Gayenge

Aur Kya?

```
print("Jhumenge", "Nachenege", "Gayenge",  
sep="-", end="\nAur Kya?")
```

Comments in Programming

What are comments ?



What are comments ?

Comments in programming are **non-executable lines that provide explanations or notes for the code**, helping developers understand its purpose and functionality.



Types of Comments

- 1. Single Line Comments**
- 2. Multi Line Comments**



Single Line comments

A single-line comment in Python **starts with the hash character (#)** and **is used to add notes or explanations** to your code that are ignored by the Python interpreter.



Single Line comments



```
# This is a single-line comment
x = 10 # Assigning a value to the variable x
```

Multi Line comments

A multi-line comment in Python is created using **triple quotes** ("""" """" or """ """) and is used to provide explanations that span multiple lines.



Multi Line comments

```
● ● ●  
...  
This is a multi-line comment (docstring)  
It is often used to provide documentation for functions and classes.  
...  
def my_function():  
    """This is a docstring for the my_function() function."""  
    pass
```

Multi Line comments

```
def calculate_area(base, height):
    """
    This function calculates the area of a triangle.
    It takes the base and the height as arguments and
    returns the computed area.
    """
    # The formula for the area of a triangle is 0.5 * base * height
    return 0.5 * base * height
```

Importance of Comments :

- Clarify Code Functionality
- Improve Readability
- Facilitate Collaboration
- Document Changes





Quiz Time!

Summary

- **print() in Python** - function that outputs the specified message
- **`end`** - Customizes line ending character in print().
- **`sep`** - Sets separator between printed items.
- **Comments in Python** - non-executable lines that provide explanations



Please fill the feedback!

Thank You!