

Day 29



Local vs Global Variables in Python:

What is a Variable?

A variable is a name that stores a value in memory.

```
x = 10
```

What is Scope?

Scope defines where a variable can be accessed in your program.

Python mainly uses:

- Local scope
- Global scope

Local Variables: A local variable is created inside a function and can be used only within that function.

```
def my_function():
    x = 10 # local variable
    print(x)
my_function()
```

Global Variables: A global variable is created outside all functions and can be accessed anywhere in the program.

```
x = 20 # global variable
def my_function():
    print(x)
my_function()
print(x)
```

Example: local variable.

A screenshot of a Python code editor interface. At the top, there's a dark header bar with the Python logo and the text "Day 29". Below the header, the code editor shows four lines of Python code:

```
1 def greet():
2     x = 4
3     print(x)
4 greet()
```

The code is syntax-highlighted, with "def", "greet", "x", and "print" in blue, and the value "4" in green. Below the code editor, there are tabs for "PROBLEMS", "OUTPUT", "DEBUG CONSOLE", and "TERMINAL". The "TERMINAL" tab is currently selected and shows the command "python .\main.py" followed by the output "4".

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

● PS E:\Python\Day21-30\Day29> python .\main.py
4

Example: global variable.

```
1 x = 4
2 def greet():
3     print(x)
4 greet()

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

● PS E:\Python\Day21-30\Day29> python .\main.py
4

Example: local variable get preference over the global variable if there name be same.

```
1 x = 4
2 def greet():
3     x= 5
4     print(x)
5 greet()

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PO
```

● PS E:\Python\Day21-30\Day29> python .\main.py
5

Example: using 'global' keyword

```
7 x = 10
8 def change():
9     global x
10    x = 20
11    print(x)
12 change()

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
```

● PS E:\Python\Day21-30\Day29> python .\main.py
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Why Avoid Too Many Global Variables?

Using many global variables can:

- Make code hard to debug
- Cause unexpected changes
- Reduce readability

Feature	Local Variable	Global Variable
Defined	Inside function	Outside function
Scope	Only inside function	Entire program
Memory	Created when function runs	Created at program start
Best practice	 Recommended	 Use carefully

--The End--