



## Python Functions



# About the Author



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# Icons Used



Questions



Tools



Hands-on Exercise



Coding Standards



Questions?



Reference



Try it Out



Informative  
Slide



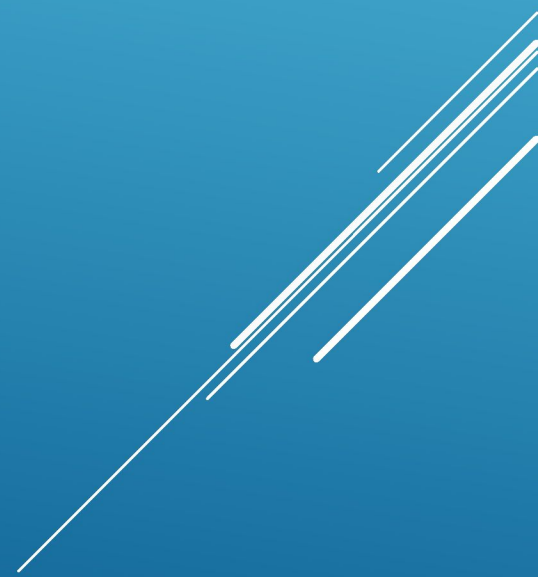
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Welcome Break

# FUNCTIONS IN PYTHON

- ▶ Learn Python Functions
- ▶ By: Mohd Salman



- ▶ 1. Defining Functions
- ▶ 2. Parameters & Return Values
- ▶ 3. Arguments & Default Parameters
- ▶ 4. Lambda Functions
- ▶ 5. Map & Filter Functions
- ▶ 6. Hands-on Labs
- ▶ 7. Assessment Quiz

# AGENDA

- ▶ A function is a block of reusable code.
- ▶ A function in Python is a block of reusable code that performs a specific task. Functions help make your code modular, organized, and easier to maintain.

## DEFINING FUNCTIONS

- ▶ Reusability — write once, use many times
- ▶ Modularity — divide large programs into smaller parts
- ▶ Readability — code is cleaner and easier to understand
- ▶ Debugging — easier to find and fix issues

# WHY USE FUNCTIONS



► Syntax:

```
def function_name(parameters):  
    "Docstring"  
    statement(s)
```

Example:

```
def greet():  
    print('Hello, World!')
```

```
greet()
```

# DEFINING FUNCTIONS



Parameters pass information into functions.

Example:

```
def add(a, b):  
    return a + b
```

```
result = add(5, 3)  
print(result) # Output: 8
```

# PARAMETERS & RETURN VALUES

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- ▶ Default parameters allow optional arguments.

- ▶ Example:

```
def greet(name='Guest'):
    print('Hello,', name)
```

```
greet('Alice')
```

```
greet() # Uses default value
```

## ARGUMENTS & DEFAULT PARAMETERS



- ▶ Lambda (anonymous) functions are small, one-line functions.

- ▶ Example:

```
add = lambda x, y: x + y  
print(add(3, 5)) # Output: 8
```

# LAMBDA FUNCTIONS

- ▶ Applies a function to all items in an iterable.

- ▶ Example:

```
numbers = [1, 2, 3, 4]
```

```
squares = list(map(lambda x: x ** 2, numbers))
```

```
print(squares)
```

## MAP() FUNCTION

- ▶ Filters items using a condition.

- ▶ Example:

```
numbers = [1, 2, 3, 4, 5, 6]
```

```
even = list(filter(lambda x: x % 2 == 0, numbers))
```

```
print(even)
```

## FILTER() FUNCTION



- ▶ 1. What is a function in Python?
- ▶ 2. How to define a function with default parameters?
- ▶ 3. What is a lambda function?
- ▶ 4. Difference between map() and filter()?

## ASSESSMENT QUIZ

- ▶ A function in Python is a block of reusable code that performs a specific task.
- ▶ Functions help make your code modular, organized, and easier to maintain.

THANK YOU!

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