Function (Part-1)

Basics

Function Basics

Part 1

Covered NOW

Part 2

In Unit dedicated to functions

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Overview

Overview

- A **function** is a reusable block of code that executes only when called.
- Functions can accept **inputs** (called **parameters**) to work with.
- They can also **return a result** after execution.

02

Types of Functions

Types of Functions

Python has **two** main types of functions:

1. **Built-in Functions:** Python provides many built-in functions like *print(), len(), type(),* etc.

2. **User-defined Functions:** You can create your own functions to perform specific tasks.

We will focus on **User-defined Functions** in this video

03

Why Use Functions

Why Use Functions

Code Reusability

Write a function once and reuse it multiple times.

Modularity

Break complex problems into smaller sub-problems

Code Organization

Keep your code neat and readable

Easier Debugging

Functions allow for easier identification and fixing of errors

04

Defining and Calling Function

Defining a Function

- **def**: The keyword to define a function.
- **function_name**: The name you assign to your function. It should be descriptive and follow naming conventions (like using snake_case).
- **parameters**: Optional inputs passed to the function. You can pass multiple parameters separated by commas.

Python

```python
def function_name(parameters):
    """
    Optional docstring
    explaining the function.
    """
    # Function body
    return value  # Optional
```

- **docstring**: A string that describes the function. It is optional but recommended for documentation purposes.
- **return**: Optional. It allows the function to send a result back to where it was called.

Defining and Calling a Function - Example

Python

```python
def greet(name):
    """
    This function greets the person passed as
    an argument.
    """
    return f"Hello, {name}!"

# Calling the function
print(greet(“Amar"))
```

Output

```
Hello, Amar!
```

Defining and Calling a Function - Example

Python

```python
def greet(name, age):
    """
    This function greets the person passed as an argument.
    """
    return f"Hello, {name}! You are {age} years old."

# Calling the function
print(greet(“Amar“, 25))
```

Output

```
Hello, Amar! You are 25 years old.
```

Defining a Function - print vs return

Feature	print	return
Purpose	Displays output on the screen	Sends a value back to the caller
Data Usage	Cannot be used for further computation	Can be stored or used in calculations
Stops Execution	No	Yes, ends the function's execution
Example	*print("Hello")*	*return x + y*
Use Case	For showing results to the user	For passing results back to the program

Knowledge Reinforcement

1
Question

Write a function that takes two positional arguments, **a** and **b**, and **returns** their **sum**.

Call the function with the values **5** and **10**.

Code

Python

```python
def sumnum(a, b):
    """
    This function will return sum of a and b.
    """
    return a + b

# Calling the function
print(sumnum(5, 10))
```

2

Question

Define a function **full_name** that takes two positional arguments: **first_name** and **last_name**.

The function should **print** the full name in the format: **First Last**.

Call the function with your name.

Code

Python

```python
def full_name(first_name, last_name):
    print(f"{first_name} {last_name}")

full_name("Ravi", "Aggarwal")
```

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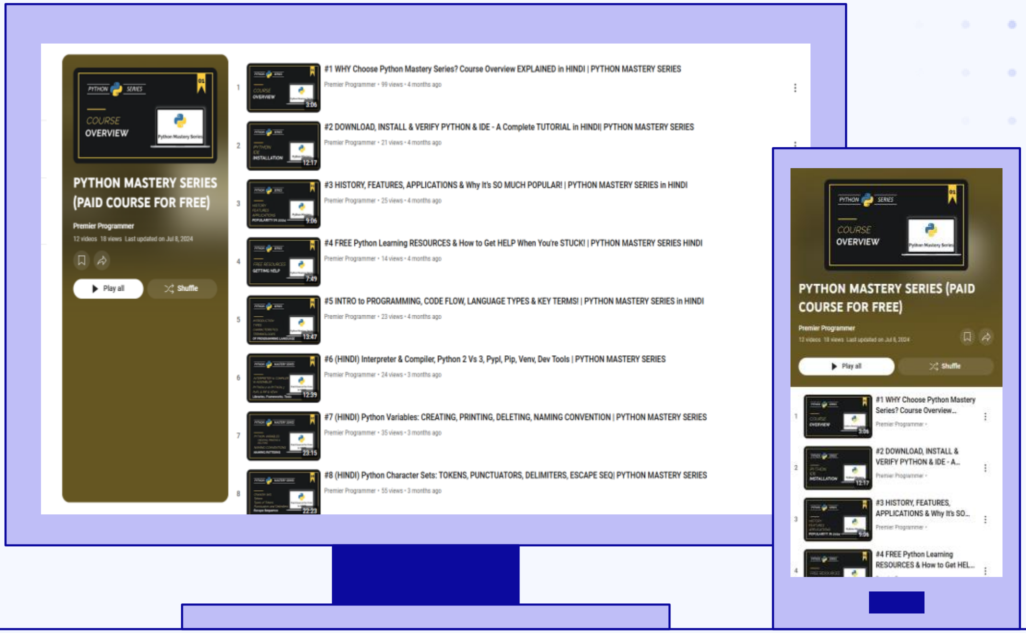

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