

DAY 1

- The `square` function takes one argument (`number`) and returns its square using the exponentiation operator `**`.
- The user is prompted to enter a number, which is then passed to the `square` function to compute the result.
- The result is printed to the console.

You can run this program, and it will ask you to input a number and give you its square as output.

In Python, arguments are the values or data passed into functions when they are called. These arguments are used by the function to perform specific tasks. There are a few ways arguments can be passed to functions in Python. Let me explain different types of arguments in Python.

1. Positional Arguments

These are the most common type of arguments where the values are passed based on their position in the function call.

Example:

python

Copy

```
def greet(name, age): print(f"Hello, {name}! You are {age} years old.")  
greet("Alice", 25)
```

In this example, `name` and `age` are positional arguments. When the `greet` function is called, "Alice" is assigned to `name` and `25` is assigned to `age` based on their positions.

2. Keyword Arguments

Keyword arguments are passed by explicitly specifying the parameter name along with the value. This allows passing arguments in any order.

Example:

python

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```
def greet(name, age): print(f"Hello, {name}! You are {age} years old.")  
greet(age=25, name="Alice")
```

Here, `name="Alice"` and `age=25` are keyword arguments. The order of passing the arguments doesn't matter since we're specifying which value goes to which parameter by name.

3. Default Arguments

In this case, you can assign default values to parameters in the function definition. If a caller doesn't pass a value for that parameter, the default value is used.

Example:

python

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```
def greet(name, age=30): print(f"Hello, {name}! You are {age} years old.")  
greet("Bob") # age will default to 30 greet("Alice", 25) # age will be 25
```

Here, `age` has a default value of `30`. If you don't provide an `age`, it will use the default.

4. Variable-length Arguments (Arbitrary Arguments)

Python allows passing an arbitrary number of arguments using special syntax.

- `*args`: Used for non-keyword variable arguments (a tuple of arguments).

Example:

- python

- Copy

- ```
def print_numbers(*args): for number in args: print(number)
print_numbers(1, 2, 3, 4, 5)
```

Here, `*args` collects all the extra positional arguments passed to the function into a tuple. You can then iterate over `args` to print each value.

- `**kwargs`: Used for keyword variable arguments (a dictionary of arguments).

Example:

- python

- Copy
- ```
def print_details(**kwargs): for key, value in kwargs.items():
    print(f"{key}: {value}")
```

`print_details(name="Alice", age=25, city="New York")`
 Here, `**kwargs` collects all the keyword arguments passed to the function into a dictionary. You can then access them using `key` and `value` pairs.

5. Keyword-only Arguments

You can also define functions where certain arguments must be passed as keyword arguments.

Example:

python

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```
def greet(name, *, age): print(f"Hello, {name}! You are {age} years old.")
greet("Alice", age=25) # Correct usage # greet("Alice", 25) # This will raise an
error
```

Here, `age` must be passed as a keyword argument, otherwise it will raise a `TypeError`.

Summary:

- Positional arguments: Passed by their position.
- Keyword arguments: Passed by explicitly naming them.
- Default arguments: Arguments that have default values if not provided.
- Variable-length arguments (`*args` and `**kwargs`): Allow passing multiple arguments.
- Keyword-only arguments: Arguments that must be passed using the keyword name.

Let me know if you need further clarification!

You said:

1 DAY PHYTHON

ChatGPT said:

If you're looking to learn Python in one day, it's important to focus on the most essential

concepts and tools you'll need to get started with programming in Python. Here's a condensed

plan to learn Python in one day:

1. Setup Python

- Download & Install: First, make sure you have Python installed on your system.
 - Go to python.org and download the latest version for your system.
 - Install Python, and make sure to check the box to add Python to your system's PATH during installation.
- Install an IDE or Text Editor: For coding, use any of the following:
 - [VSCode](#)
 - [PyCharm](#)
 - Or you can use simple editors like [Sublime Text](#).

2. Python Basics (1 Hour)

Start with the fundamentals of Python:

- Hello World: The classic first step to ensure everything is set up.
- python
- Copy
- `print("Hello, World!")`
- Variables: Learn how to assign and use variables in Python.
- python
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- `x = 5 name = "Alice" is_active = True`
- Data Types:
 - Strings, Integers, Floats, Booleans
- python
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- `string = "Hello" integer = 10 float_value = 3.14 boolean = True`
- Basic Operators:
 - Arithmetic operators: +, -, *, /, //, %, **
 - Comparison operators: ==, !=, <, >, <=, >=
 - Logical operators: and, or, not
- python
- Copy
- `x = 5 y = 10 print(x + y) # Addition print(x == y) # Comparison`

3. Control Flow (1 Hour)

Learn how to control the flow of your program with conditionals and loops:

- If-else statements:
- python
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- `x = 10 if x > 5: print("x is greater than 5") else: print("x is 5 or less")`
- Loops: Learn how to repeat tasks with `for` and `while` loops.
 - `for` loop (iterating through a list):
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 - `for i in range(5): print(i)`
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 - `count = 0 while count < 5: print(count) count += 1`

4. Functions (1 Hour)

Functions allow you to group code into reusable blocks.

- Defining functions:
- python
- Copy
- `def greet(name): print(f"Hello, {name}!") greet("Alice")`
- Returning values from functions:
- python
- Copy
- `def square(num): return num ** 2 result = square(4) print(result) # Output: 16`

5. Collections: Lists, Tuples, Dictionaries (1 Hour)

Learn how to handle collections of data with lists, tuples, and dictionaries.

- List:
- python
- Copy
- `fruits = ["apple", "banana", "cherry"] fruits.append("orange")
print(fruits[0]) # Output: apple`
- Tuple (immutable):
- python
- Copy
- `coordinates = (10, 20) print(coordinates[1]) # Output: 20`
- Dictionary:
- python
- Copy
- `person = {"name": "Alice", "age": 25} print(person["name"]) # Output: Alice`

6. File Handling (30 Minutes)

Learn how to read and write files in Python:

- Writing to a file:
- python
- Copy
- `with open("example.txt", "w") as file: file.write("Hello, Python!")`
- Reading from a file:
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- `with open("example.txt", "r") as file: content = file.read() print(content)`

7. Error Handling (30 Minutes)

Learn how to handle errors and exceptions:

- Try-Except block:
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- `try: x = 10 / 0 except ZeroDivisionError: print("Cannot divide by zero")`

8. Libraries and Modules (30 Minutes)

Python has a large set of built-in libraries. Learn how to import and use them:

- Importing libraries:
- python
- Copy
- `import math print(math.sqrt(16)) # Output: 4.0`
- Using third-party libraries: Install using `pip` (Python package manager).
- bash
- Copy
- `pip install requests`

Log in

Sign up

You said:

how to logout github

ChatGPT said:

To log out of GitHub, the process depends on whether you're using it through a web browser or the GitHub Desktop application. Here's how to log out in both cases:

1. Log out of GitHub on a Web Browser:

- Open GitHub in your web browser and go to <https://github.com>.
- In the top-right corner of the page, click on your profile picture or avatar.
- In the dropdown menu, click Sign out.

2. Log out of GitHub Desktop:

- Open the GitHub Desktop application.
- In the top menu, click on File (Windows) or GitHub Desktop (macOS).
- Select Options (Windows) or Preferences (macOS).
- Under the Accounts tab, click Sign Out next to your GitHub account.

Let me know if you need further help!

You said:

def square progra m in phython

ChatGPT said:

Here's a simple Python program to calculate the square of a number:

python

Copy

```
def square(number): return number ** 2 # Test the function num =  
float(input("Enter a number to square: ")) result = square(num) print(f"The square  
of {num} is {result}.")
```

Explanation:

- The `square` function takes one argument (`number`) and returns its square using the exponentiation operator `**`.
- The user is prompted to enter a number, which is then passed to the `square` function to compute the result.
- The result is printed to the console.

You can run this program, and it will ask you to input a number and give you its square as output.

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arguments of phython program

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