Introduction To Python

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Python Functions

- There are two kinds of functions in Python:
  - **Built-in functions** provided as part of Python, such as `print()`, `input()`, `type()`, etc.
  - **User-defined functions** which are created by the programmer.
- Function names are treated as "new reserved words."

Function Definition

- A function is reusable code that takes arguments, performs a computation, and returns a result.
- Defined using the `def` keyword.

Build Your Function

- Functions are defined with the `def` keyword and optional parameters in parentheses.
- Example:

```
1 def greet(name):
2     return "Hello, " + name + "!"
```

Definition and Uses

- After defining a function, it can be invoked multiple times.
- This is known as the "store and reuse" pattern.

Arguments

- Arguments are values passed to a function.
- Example:

```
1 largest = max(3, 7, 2, 5)
2 print(largest)  # Output: 7
```

Parameter

- A parameter is a variable in the function definition that refers to an argument during function calls.
- Example:

```
1 def square(number):
2     return number * number
```

Return Values

- `return` sends a value back to the caller.
- Example:

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

Multiple Parameters / Arguments

- Functions can take multiple parameters.
- Example:

```
1 def multiply(x, y):
2     return x * y
```

Void (Non-Fruitful) Functions

- Void functions do not return a value.
- Example:

```
1 def greet(name):
2     print("Hello, " + name + "!")
```

Advantages

- Organize code into logical chunks.
- Avoid repetition by reusing code.

End of Functions