**Functions:**

**Definition:**

A function is a reusable block of code that performs a specific task. It takes input, processes the input, and returns an output. Functions help to avoid code rewriting and make programs more organized and maintainable.

**Syntax:**

def function\_name(parameters):

# Code block to perform the task

return output

**Ex:**

def greet(name):

return f"Hello, {name}!"

print(greet(mani)) # Output: Hello, mani!

The greet function takes one parameter name, processes it, and returns a greeting message.

**Function with Multiple Parameters:**

def add\_numbers(a, b):

return a + b

print(add\_numbers(5, 10)) # Output: 15

**Function with Default Parameters:**

def greet(name, greeting="Hello"):

return f"{greeting}, {name}!"

print(greet(‘mani’)) # Output: Hello, mani!

print(greet(‘raju’, 'Hi')) # Output: Hi, raju!

The greet function has a default parameter greeting, which provides a fallback if no value is passed.

**Function with Return Statement:**

def square(num):

return num \* num

print(square(4)) # Output: 16

The square function returns the square of the given number.

**Function Without Return (Using Print Statement):**

def greet(name):

print(f"Hello, {name}!")

greet(‘venu’) # Output: Hello, venu!

This function prints the greeting message but doesn’t return anything.