

## Functions

### 1. Defining a Function

- It is a block of statement to accomplish the specific task. The work of function is instead of writing the code repeatedly in a different, we can use the function by calling function name to reuse over and over again.

### 2. Reasons of Using Functions

- It makes the program understandable and also reduces the redundancy because it can use the function name repeatedly. Also to avoid the confusion in writing the program.

### 3. Types of Functions in Python

- Built-in Function- It is type of function that built in python itself and available for use. Example is range(), print(), min().
- User-defined functions- It is type of function which is the user who will defined the function name to perform a specific task.

### 4. Advantages of User – Defined Function

- First is Reusability, when you define the function you can repeatedly use the code without using the same logic.
- Second is Readability, your code can be easier to comprehend and more self-explanatory by using well-named functions with descriptive, clear names.
- Functions enable you to divide a difficult issue into smaller, more manageable portions.

### 5. Rules in Declaring a Function in Python

- In Python, it defined the def keyword the function, followed by the function name and the parenthesis which hold any parameters the function. Also use a colon (:) to indicate the beginning of the function body. Then the function body and a return statement.

## 6. Python Function Syntax

```
def function_name(parameters):  
    # Statements  
    return value # Optional
```

## 7. Function Argument and Parameter

- Parameter is a variable in a function's declaration

```
def greet(name):  
    print("Hello,", name)
```

- An argument is the actual value that is passed to the function when it is called.

```
greet("Alice")
```

## 8. The Return Statement

- The return statement in Python is used to exit a function and optionally return a value back to the caller.

```
def add(x, y):  
    return x + y  
  
# Call the function and store the result in a variable  
result = add(5, 5)  
  
# Print the result  
print(result) # Output: 10
```