

## Chapter 50 - Return Type

### Theory:

This chapter covers the topic of Return Type.

### Code Example:

```
# ■ For advanced types like Union and Optional
from typing import List, Tuple, Union, Optional

# 1■■ Returns an integer
def add(x: int, y: int) -> int:
    return x + y

# 2■■ Returns a string
def greet(name: str) -> str:
    return f"Hello, {name}!"

# 3■■ Returns nothing (None)
def print_sum(x: int, y: int) -> None:
    print(f"Sum is: {x + y}")

# 4■■ Returns a list of strings
def get_fruits() -> List[str]:
    return ["apple", "banana", "mango"]

# 5■■ Returns a tuple of int and str
def get_user_info(user_id: int) -> Tuple[int, str]:
    return (user_id, "John Doe")

# 6■■ Returns either int or str
def parse_value(value: str) -> Union[int, str]:
    if value.isdigit():
        return int(value)
    return value

# 7■■ Returns an optional string (can be None)
def find_name(name_list: List[str], query: str) -> Optional[str]:
    if query in name_list:
        return query
    return None

# ■ Using all functions
if __name__ == "__main__":
    print("1. Add:", add(5, 3)) # int
    print("2. Greet:", greet("Milan")) # str
    print("3. Print sum:", end=" "); print_sum(10, 20) # None
    print("4. Fruits:", get_fruits()) # List[str]
    print("5. User Info:", get_user_info(101)) # Tuple[int, str]
    print("6. Parse '42':", parse_value("42")) # Union[int, str]
    print("7. Find Name:", find_name(["Ali", "Milan"], "Milan")) # Optional[str]
    print("7. Find Name (Not Found):", find_name(["Ali", "Milan"], "Sara")) # None
```