

COMP110: Functions in Python

Functions allow you to organize code into reusable blocks.

1. Defining a Function

```
def greet():  
    print("Hello!")
```

2. Calling a Function

```
greet() # Output: Hello!
```

3. Function with Parameters

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

```
greet("Alice") # Output: Hello, Alice
```

4. Function with Return Value

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

```
result = add(3, 5)
```

```
print(result) # Output: 8
```

5. Default Parameters

```
def greet(name="friend"):
```

```
print("Hello, " + name)
```

```
greet()    # Output: Hello, friend
```

```
greet("Sam") # Output: Hello, Sam
```

6. Keyword Arguments

```
def describe_pet(animal_type, pet_name):
```

```
    print(f"I have a {animal_type} named {pet_name}.")
```

```
describe_pet(animal_type="dog", pet_name="Buddy")
```

7. Scope

Variables inside a function are local to that function unless declared global.