CSCI 141

Scott Wehrwein

Functions with return values

Goals

- Understand the behavior of the `return` statement.

- Know how to return a value from a function.

Writing Functions: Syntax

```python
def name(parameters):
    statements
```

Two important questions:
1. How does the function use the arguments (inputs) passed to it?
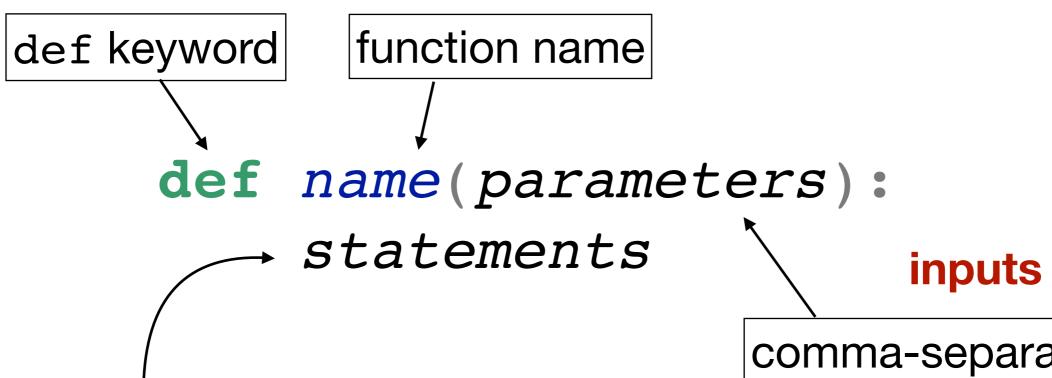2. **How does the function return a value?**

Returning values

New statement: the `return` statement

Syntax: `return` *expression*

Behavior*:*

1. `expression` is evaluated

2. the function stops executing further statements

3. the value of expression is returned
i.e., the function call **evaluates** to the returned value

Function Syntax: Summary

def keyword

function name

```
def name(parameters):
    statements
```

inputs

comma-separated list of parameters: variable names that will get assigned to the arguments

An indented code block that does any computation, executes any effects, and (optionally) returns a value

effects; return value

Return values: Demo

- Make add2 return the sum instead of printing it.

- Absolute value function with early return.

Returning values

New statement: the `return` statement

Syntax: **`return`** *`expression`*

(can **only** appear inside a function definition)

Behavior*:*

1. *`expression`* is evaluated

2. **the function stops executing further statements**

3. the value of expression is returned
   i.e., the function call **evaluates** to the returned value

Returning values: Why?

- Using the result of one computation as the input to another: function composition.