FOR INSTRUCTOR PURPOSES ONLY

MATERIALS

+ Lab
+ Lesson
+ Lab Solution Code

GENERAL ASSEMBLY

SWIFT FUNCTIONS PART 1

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QUESTION

WHAT HAPPENS IF WE KEEP WRITING CODE THIS WAY?

ACTIVITY: THINK-PAIR-SHARE

5 mins

DIRECTIONS

What problems do you foresee if I continue writing code like this?

1. Write your thoughts down (1 min)
2. Pair up and share (2 min)
3. Discuss (1 min)

DELIVERABLE

Discuss your answers with the person next to you.

LESSON

LEARNING OBJECTIVES

+ **Identify** the purpose of a function
+ **Identify** the different parts of a function
+ **Write** functions that accept parameters and return values
+ **Call** a function

INTRODUCTION

FUNCTIONS

LET'S GET FUNCY!

DEFINITION

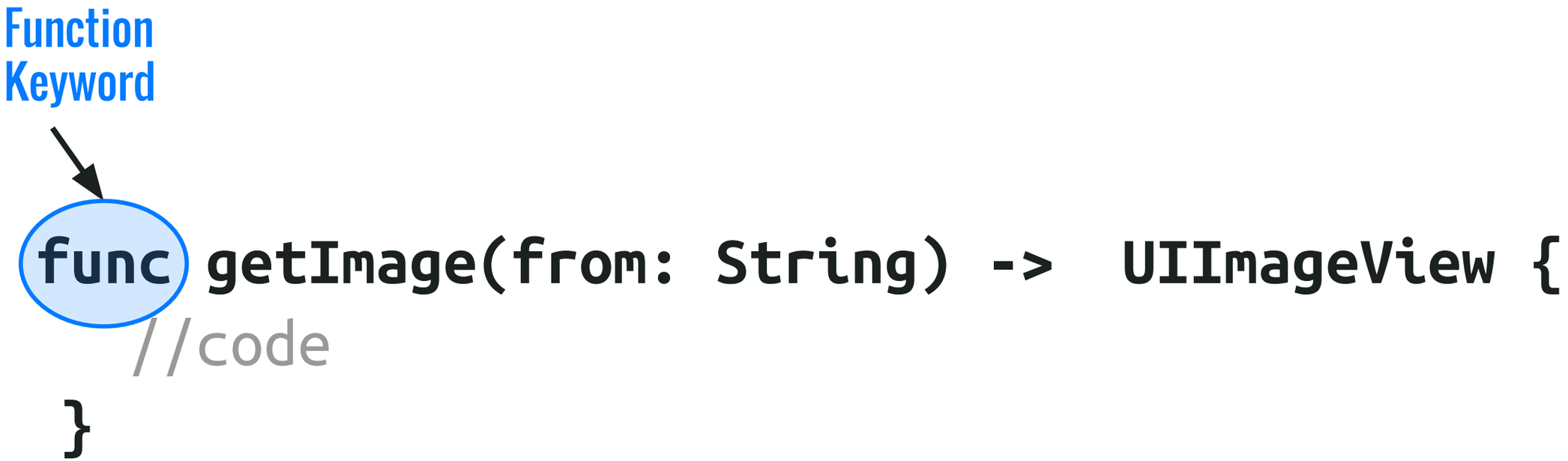
“FUNCTIONS ARE SELF-CONTAINED *CHUNKS* OF CODE THAT PERFORM A **SPECIFIC TASK**.”

- SWIFT REFERENCE

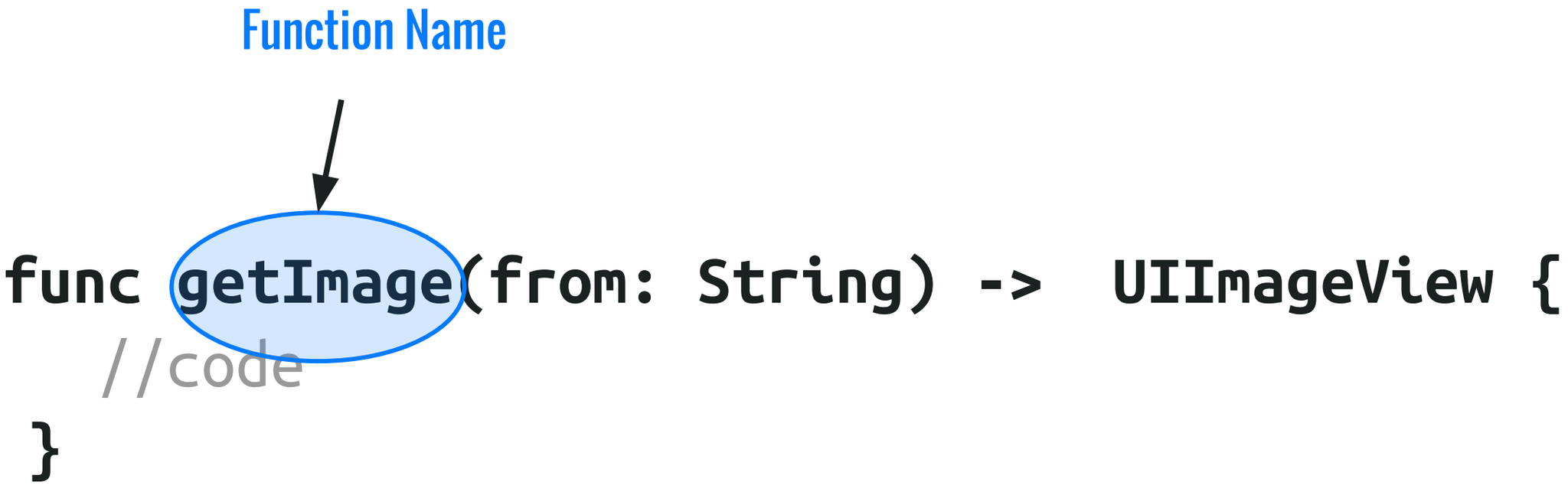
THE ANATOMY OF A FUNCTION

```
func getImage(from: String) ->  UIImageView {
    //code
}
```

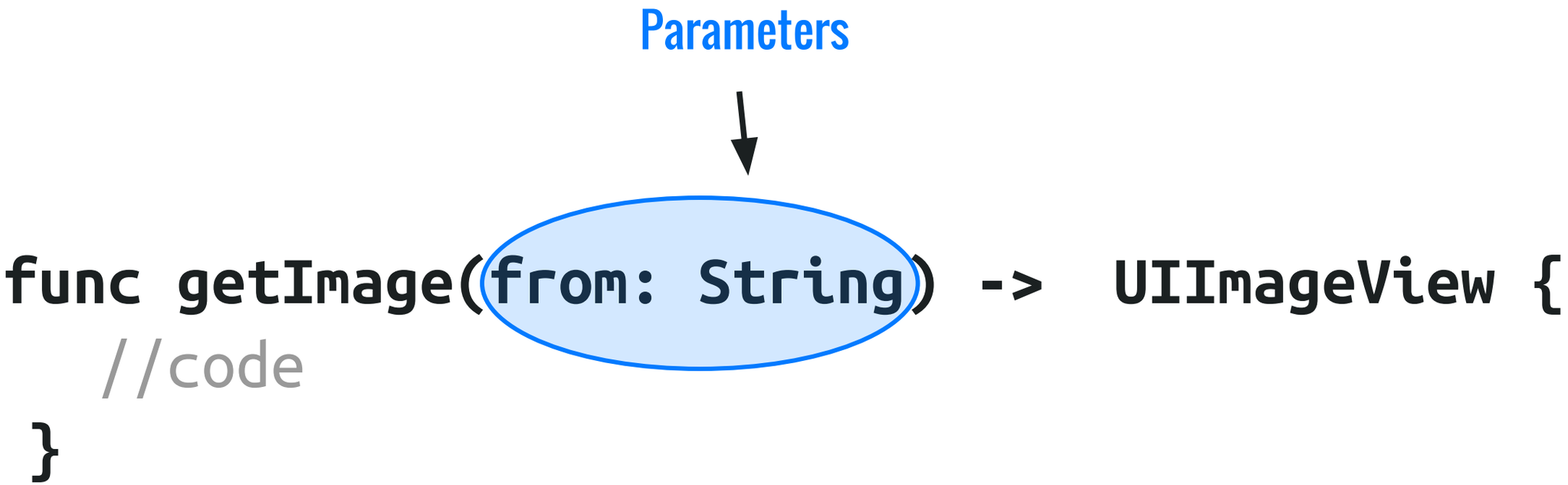
THE ANATOMY OF A FUNCTION



THE ANATOMY OF A FUNCTION



THE ANATOMY OF A FUNCTION



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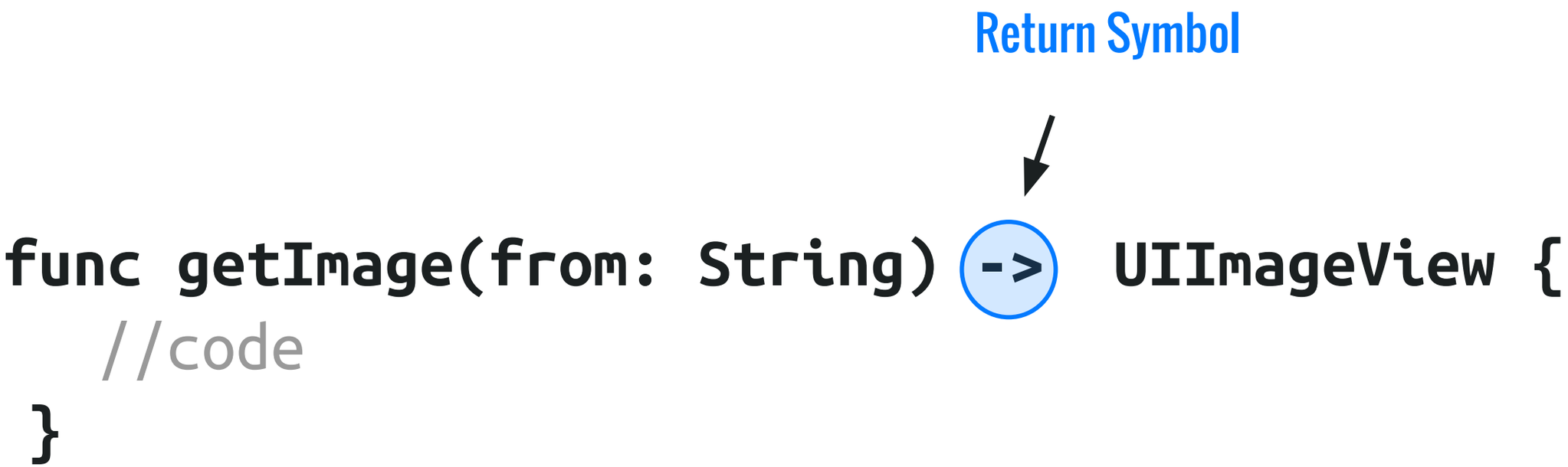
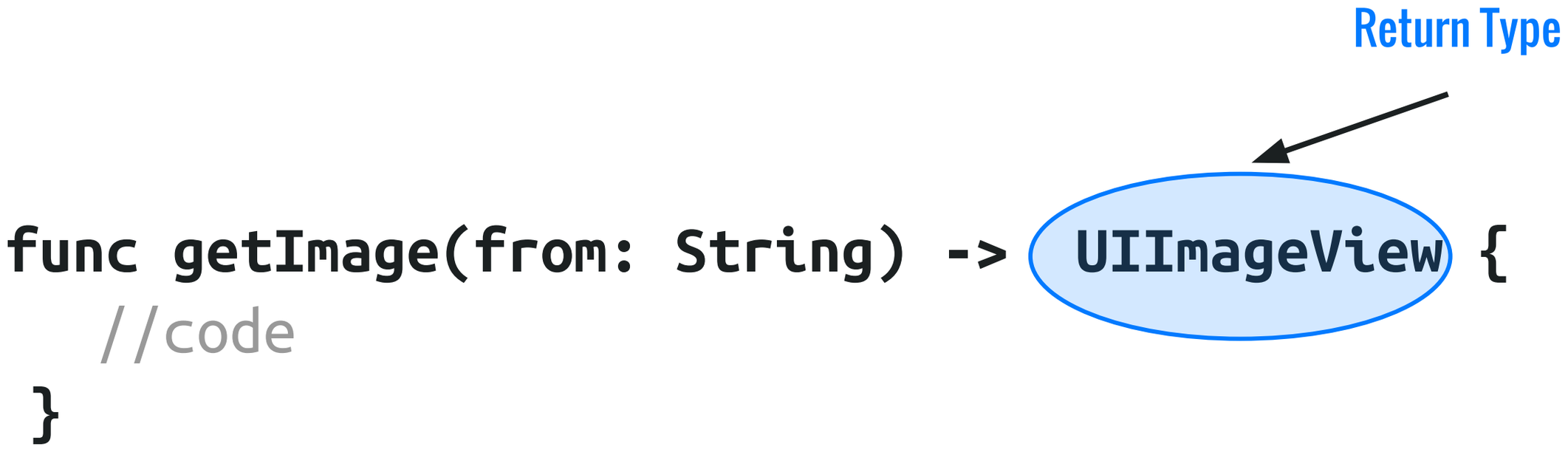


THE ANATOMY OF A FUNCTION

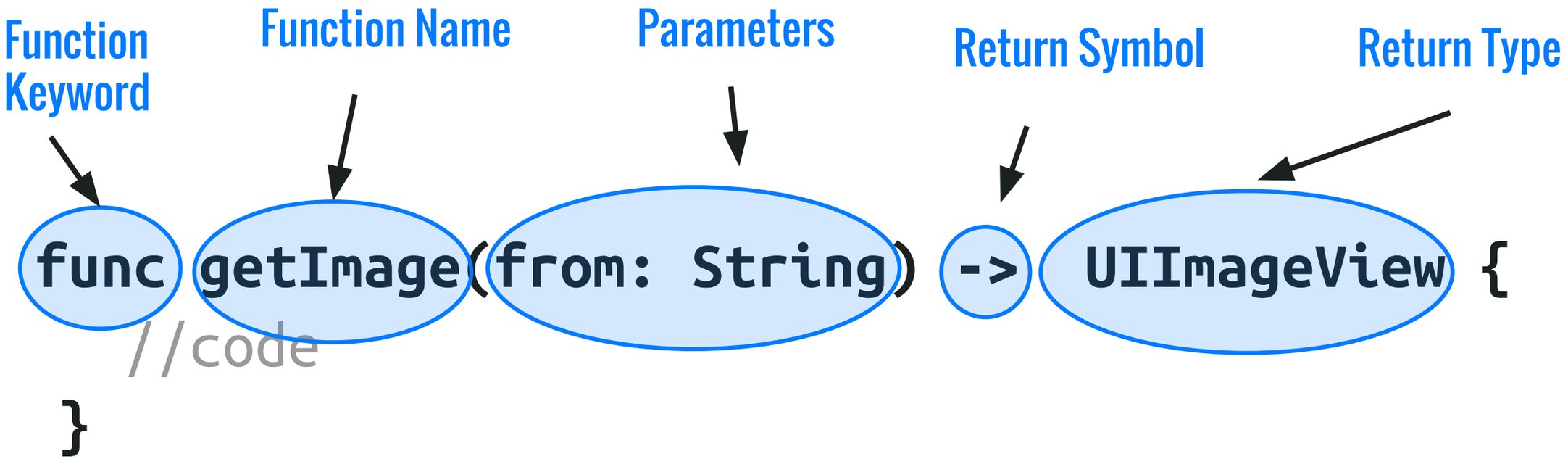


THE ANATOMY OF A FUNCTION

```
func getImage(from: String) ->  UIImageView {
    return image
}
```

Return Statement

THE ANATOMY OF A FUNCTION



ACTIVITY: WHITEBOARDING - GET FUNCY

5 mins

DIRECTIONS

On your desks or on the whiteboard, write a function that takes a speed (m/s) parameter and a time-traveled (minutes) parameter, and returns the total distance traveled.

DELIVERABLES

Your function

ACTIVITY: THINK-PAIR-SHARE

5 mins

DIRECTIONS

Think of an analogy for a function. If you could make a function for anything, what would you make?

1. Think! (1 min)
2. Pair up and share (2 min)
3. Discuss (1 min)

DELIVERABLE

Discuss your answers with the person next to you.

DEMO

COLLABO TIME

+ Write a function that takes a String URL and returns an Image

QUESTION

WHAT'S WRONG HERE?

WHAT'S WRONG?

```
func isEmpty(string: String) {
      return string.characters.count == 0
}
```

WHAT'S WRONG?

```
func save(username: String) -> String {
    settings.save(username)
}
```

WHAT'S WRONG?

```
func save(_ username: String) {
    settings.save(username)
}
```

WHAT'S WRONG?

```
func sayHello() -> String {
    print("Hello \(name)")
}
```

WHAT'S WRONG?

```
func canWatch(movie: String, age: Int) -> Bool {
  if age >= 18 {
    return true
  }

  print("Sorry kid. You're too young.")
}
```

WHAT'S WRONG?

```
func drinkWater(liters: Int) {
   let cup = Cup()
   cup.fillWithWater(liters)
   cup.drink()
}

func drinkMilk(liters: Int) {
   cup.fillWithMilk(liters)
   cup.drink()
}
```

INDEPENDENT PRACTICE: PLAYGROUNDS

15 mins

DIRECTIONS

Write a function that:

1. Takes a name and prints “Hello {name}”
2. Takes 4 numbers and tells me if they are different
3. Takes a person’s birthdate (year, month, day) and tells me how many days they have been alive.
4. Takes an integer and tells me whether it is a perfect square
5. Take an integer and tells me whether it is a perfect number

DELIVERABLES

A Playgrounds file with your answers

ACTIVITY: THINK-PAIR-SHARE

5 mins

DIRECTIONS

Think of an analogy for a function. If you could make a function for anything, what would you make?

1. Think! (1 min)
2. Pair up and share (2 min)
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DELIVERABLE

Discuss your answers with the person next to you.

LESSON

Q & A

CONCLUSION

+ Functions help write cleaner and more organized code
+ Functions help reduce code duplication by allowing you to reuse functionality

WRITE DESCRIPTIVE FUNCTION NAMES USING VERBY WORDS

NAME YOUR PARAMETERS WELL AND CLEARLY

BEST PRACTICES

FUNCTIONS SHOULD CONCEPTUALLY DO ONE THING

CHECK YOUR SHIT AT THE DOOR

KEEP IT TIGHT

KEEP FUNCTIONS AT THEIR LEVEL

LESSON

Q & A

LESSON

BEFORE NEXT CLASS

+ Read up on “Variadic Parameters”

THANKS!

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