FOR INSTRUCTOR PURPOSES ONLY

MATERIALS

+ Lab
+ Lesson
+ Lab Solution Code

FOR INSTRUCTOR PURPOSES ONLY

PRE-WORK

+ Take a look through the lesson plan

GENERAL ASSEMBLY

SWIFT VARIABLES AND CONSTANTS

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LESSON

LEARNING OBJECTIVES

+ **Articulate** the difference between a constant and a variable
+ **Declare** variables and constants
+ **Identify** different types of Swift expressions
+ **Create** expressions like multiplication and addition
+ **Print** variables like Strings and Numbers

QUESTION

WHAT IS A CONSTANT, AND WHAT IS A VARIABLE?

ACTIVITY: WRITE-PAIR-SHARE

5 mins

DIRECTIONS

On your desks, answer the following:

1. What kinds of things in life change often? (1 min)
2. What kinds of things in life are constant? (1 min)
3. How do you think this applies to programming? (1 min)
4. Discuss your answers with the person next to you. (2 min)

DELIVERABLE

Discuss your answers with the person next to you.

INTRODUCTION

VARIABLES AND CONSTANTS

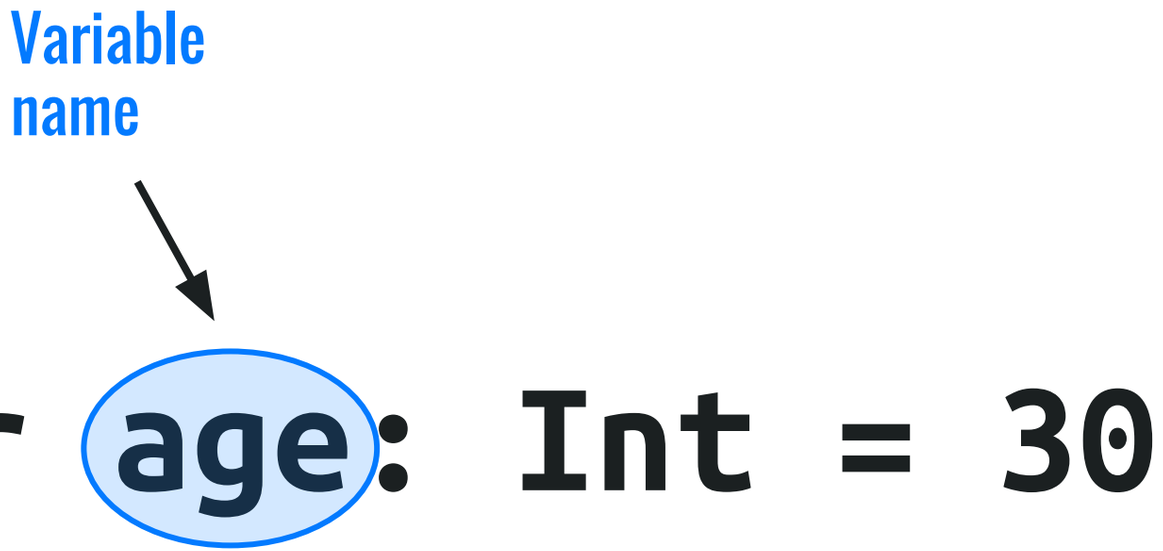
DEFINITION

“CONSTANTS AND VARIABLES ASSOCIATE A NAME WITH A VALUE OF A PARTICULAR TYPE.”

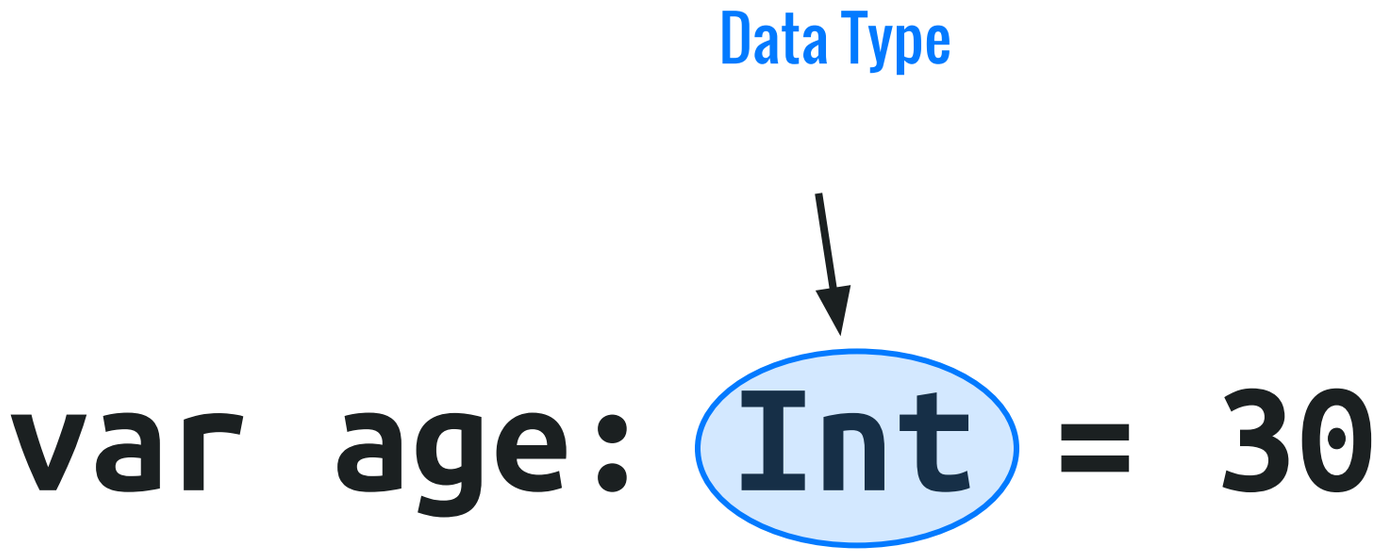
- SWIFT REFERENCE

THE ANATOMY OF A VARIABLE

THE ANATOMY OF A VARIABLE



THE ANATOMY OF A VARIABLE



THE ANATOMY OF A VARIABLE

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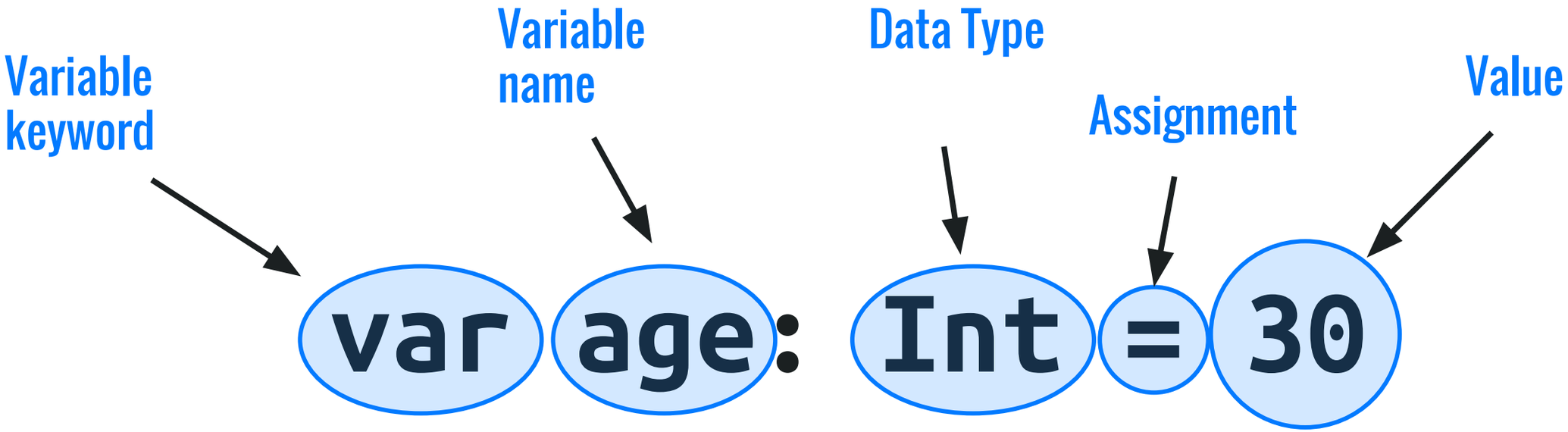
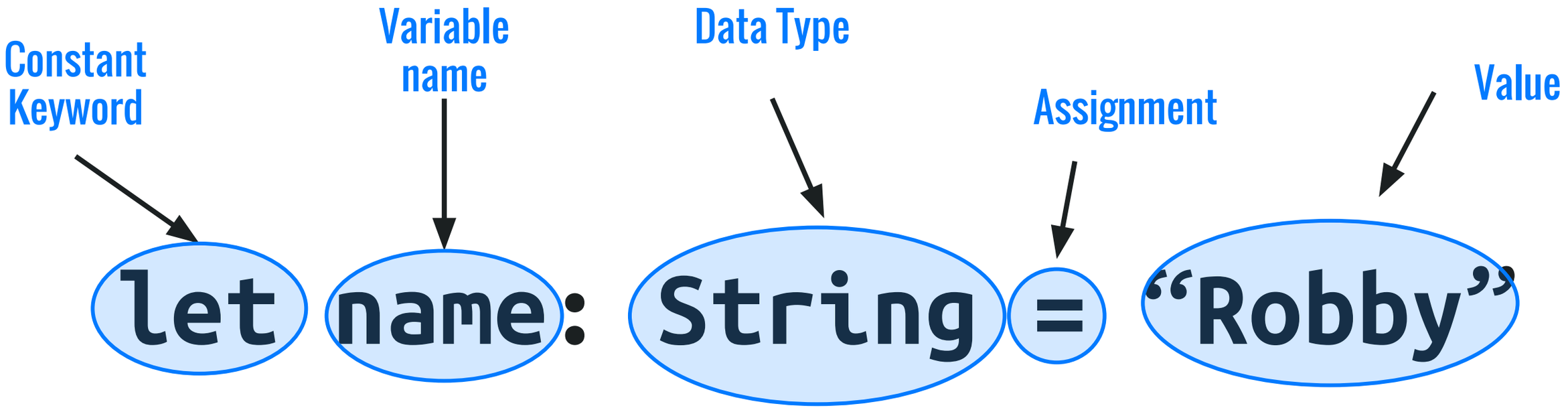


WAIT!

WHAT ABOUT CONSTANTS?

THE ANATOMY OF A CONSTANT



QUESTION

WHAT'S WRONG HERE?

WHAT'S WRONG?

```
var age: String = 30
```

WHAT'S WRONG?

```
let name = “cashmere”
name = “cardigan”
```

WHAT'S WRONG?

```
let _ = true
```

WHAT'S WRONG?

```
let _ = 💰
```

WHAT'S WRONG?

```
let color: UIColor
text.textColor = color
```

INDEPENDENT PRACTICE: PLAYGROUNDS

5 mins

DIRECTIONS

1. Write a variable called age with the value 99 (1 min)
2. Write a constant called name with your name (1 min)
3. Update the age variable's value to be your age (1 min)
4. Print your age (1 min)
5. Type "date +%s" into the command line (1 min)
6. Copy that value into a constant (1 min)
    a. What data type did you use?

DELIVERABLES

A Playgrounds file with your answers

INTRODUCTION

SWIFT EXPRESSIONS

WHAT IS THE RESULT?

2 mins

```
let first = 5 * 10 + 6
let second = 10 + 5 * 6
let areEqual = first ==
second
let isCorrect = first == 56
```

DELIVERABLE

Stop-And-Jot

DEMO

GUIDE ME

+ Calculate the sum of your ages
+ Calculate the average of your ages
+ Store all of the student's names in variables
+ Print their names to the console

LESSON

Q & A

INDEPENDENT PRACTICE: PLAYGROUNDS

10 mins

DIRECTIONS

Do as many of these as you can:

+ Create constants for each one of your family members
  + Print their names
+ Find the current weather in LA, NYC, and London, and calculate their average.
  + Print it
+ Store the following in a variable: “Have you ever programmed before?”
  + Print it

DELIVERABLES

A Playgrounds file with your answers

DATA TYPES

DEMO

GUIDED PRACTICE

INDEPENDENT PRACTICE: PLAYGROUNDS

10 mins

DIRECTIONS

Do as many of these as you can:

+ At the market, 6 batteries cost $10.38. How much do 8 batteries cost?
+ Brenda can deliver 644 newspapers in 7 hours. How many newspapers can Brenda deliver in 9 hours?
+ Robin can clean 72 rooms in 6 days. How many rooms can Robin clean in 2 weeks?

DELIVERABLES

A Playgrounds file with your answers

LESSON

Q & A

CONCLUSION

+ Variables are used to store information.
+ Constant values cannot be changed once it is set.
+ Variable values can be changed.
+ There are 4 main data types used to store basic pieces of information.
+ Expressions are operations that perform actions on variables

BEFORE NEXT CLASS

DUE DATE [TOMORROW]

+ Where do you think variables are stored?
+ What happens to your variables when your program restarts?
+ Why?

LESSON

BEFORE NEXT CLASS

- Where do you think variables are stored?
- What happens to your variables when your program restarts?
  - Why?

LESSON

EXIT TICKET

DON’T FORGET TO FILL OUT YOUR EXIT TICKET

THANKS!

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