

# THINK THE SAME IDEA: ALGORITHMS

Lesson 6





**SAME IDEA, DIFFERENT WAY  
TO DO IT**





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TO DO IT**



# LET'S DISCUSS

- Think of something that requires multiple steps to complete. These are all algorithms.
- Let's pick one example. Let's have a few of you tell the class how you would do it.
- Were the directions the same? Where did they differ? Did all the directions accomplish the same thing in the end?
- What's the difference between an algorithm and a function?



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**Algorithm:** A step-by-step set of rules or instructions.

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# WHO'S THE TALLEST?

1. Divide into a few teams.
2. Each group will come up with a way, or an “algorithm,” for someone to determine who the tallest person is in the class. It doesn't count if you can tell just by looking!
3. When writing your algorithm, use your coding knowledge. Write it using pseudocode.
4. Use Swift Playgrounds to help you brainstorm and document your process.





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Each group should share their algorithm and see if it actually works!





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1. Did the algorithms work?
2. Which group seemed to have the most efficient algorithm?
3. Would the algorithms work with 100 or 1000 people?
4. If you wanted to find the shortest student, what would you change in your pseudocode?



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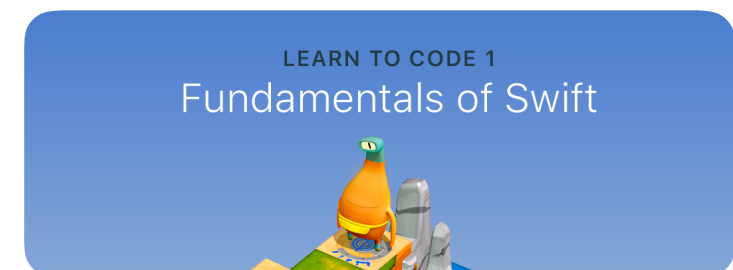


# TIME FOR SWIFT PLAYGROUNDS

## Chapter: Algorithms

.....

**REMINDER:** Take videos and or photos of your playgrounds. You will need them for your portfolio.



Algorithms	
Introduction	✓
The Right Hand Rule	✓
Adjusting Your Algorithm	✓
Conquering a Maze	✓
Which Way to Turn?	
Roll Right, Roll Left	



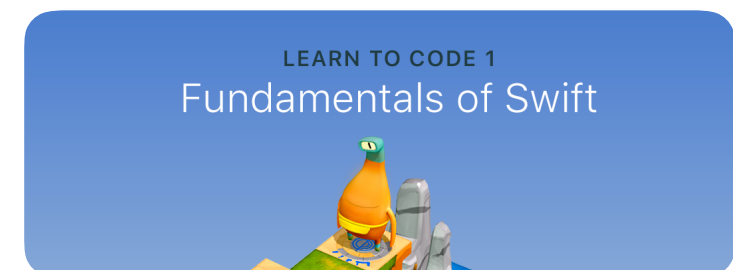


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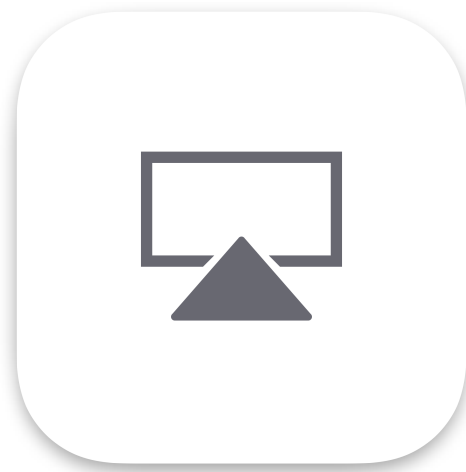
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Share what you did in Swift  
Playgrounds with AirPlay.





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2. Who had the shortest algorithm? Who had the most interesting one?
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Think ahead: In your algorithm for tallest person, how would a computer recognize that Jacob and Vera are names?



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Think ahead: In your algorithm for tallest person, how would a computer recognize that Jacob and Vera are names?



# JOURNAL

1. Upload your pseudocode.
2. Upload screenshots from Swift Playgrounds.
3. Record answers to these questions:
  - What is an algorithm and what is pseudocode?  
(Use your own words.)
  - Do ideas differ between humans and computers?  
Why or why not?



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