

# ADVANCED DRONEBLOCKS PRACTICE

## MODULE 2

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# COMMANDS OVERVIEW



# AVAILABLE COMMANDS



Takeoff	Take off immediately or after 5 seconds
Navigation	Set speed, then fly any direction
Flip	Flip any direction
Loops	Repeat command a set number of times
Logic	Do an action if certain things are true
Math	Check odd/even, use random number, etc
Variables	Create a variable (speeds up repeated number use)
Functions	Advanced; not available with all subscriptions
Land	Land permanently or for a set amount of time

**Figure 1. DroneBlocks Commands**

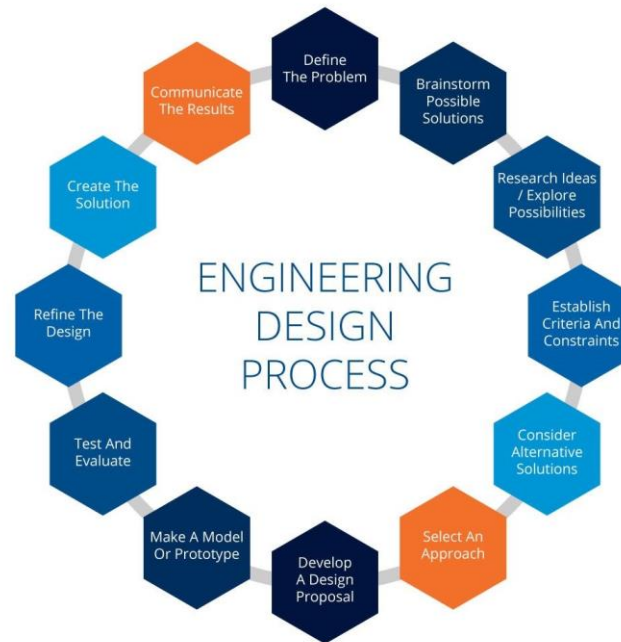


# PRACTICE ACTIVITIES

# PRACTICE ACTIVITIES: INTRO



- **Use the engineering design process**
  - Define your problem, brainstorm solutions, and continue to refine until you have the perfect solution!
- **Work together to bounce ideas off each other**
- **Program in DroneBlocks, then run your code in the Simulator**

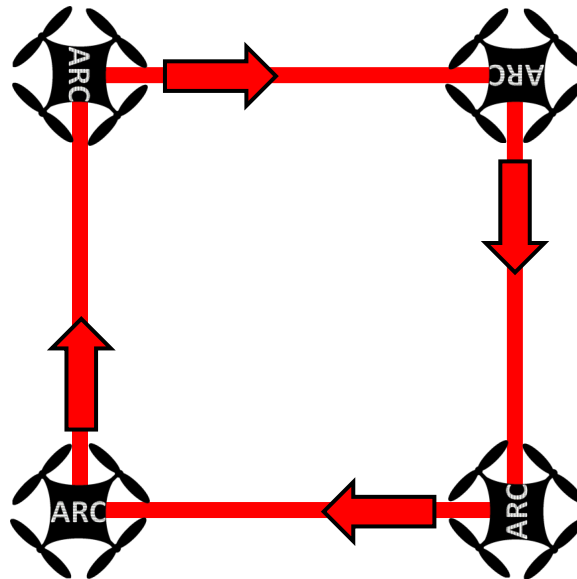


**Figure 2. Engineering Design Process**

# PRACTICE ACTIVITIES



- **Activity 1: Fly in a Square**
  - Fly forward and turn right four times
  - See figure below
- **Activity 2: Flips!**
  - Flip forward, backward, left, and right five times
  - Can you think of multiple ways to solve this problem?
  - Solutions on next slide



**Figure 3. DroneBlocks Activity: Fly in a Square**



# ACTIVITY 2 SOLUTION



Figure 4. Flips

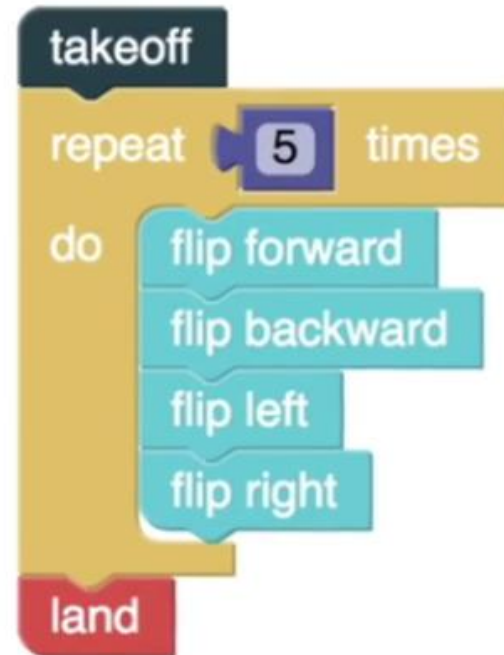


Figure 5. Flips using Loops



# MORE EXAMPLES TO TRY



# VARIABLES AND LOOPS

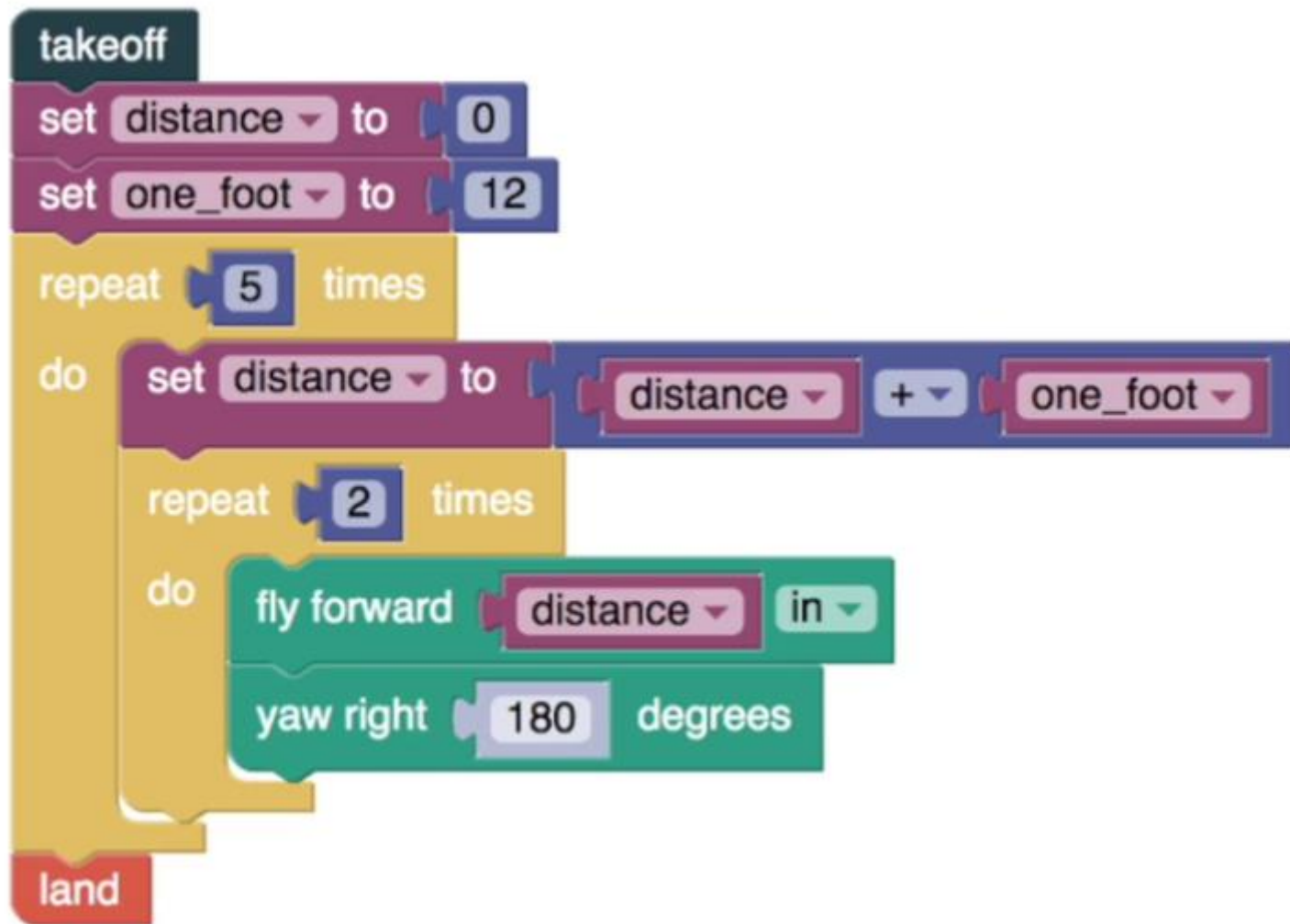


Figure 6. Variables and Loops

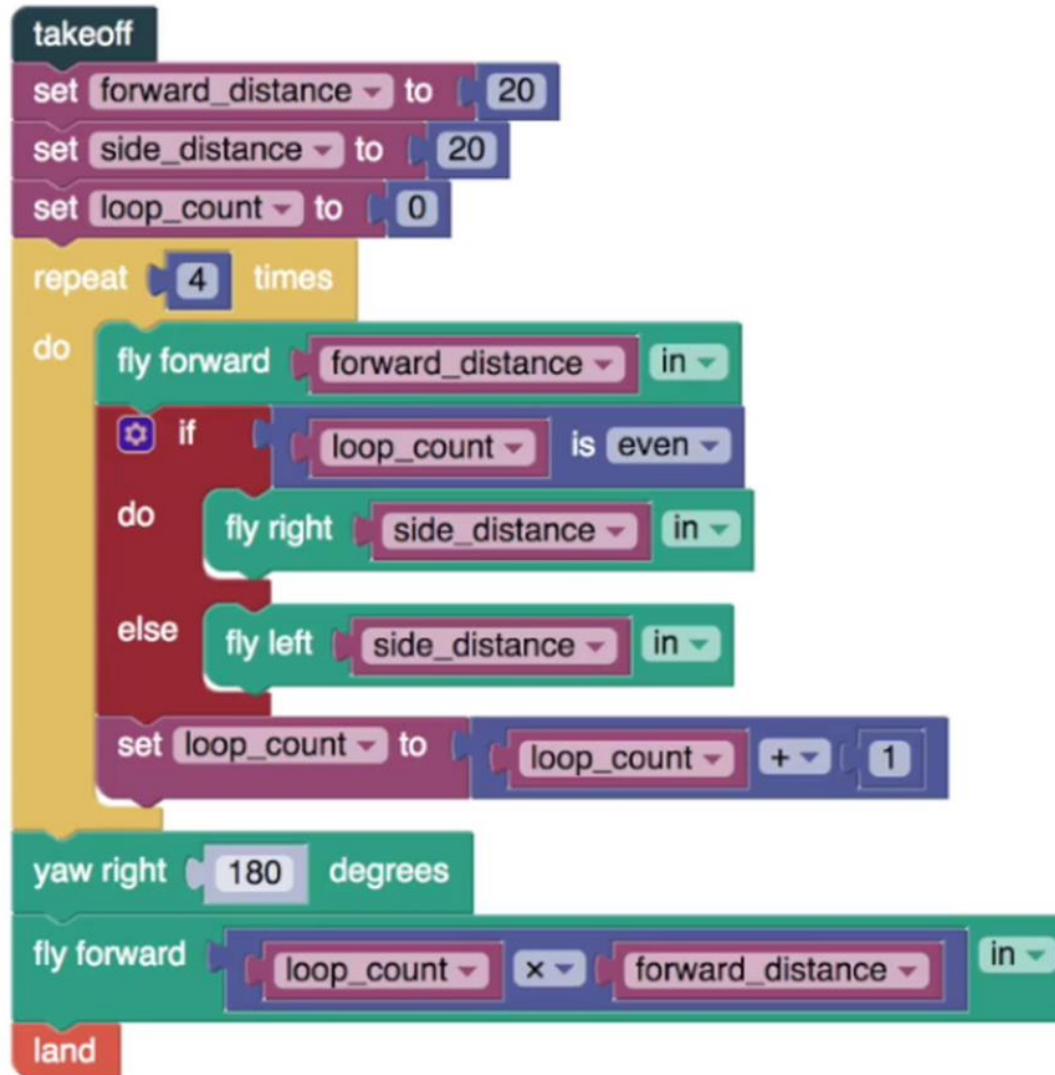


Figure 7. Add Logic



# RESOURCES



# MORE RESOURCES



- **More Quadcopter Dynamics:**  
<https://www.youtube.com/watch?v=DNc8o9CZLHU>
- **DroneBlocks:** <https://www.droneblocks.io/>
- **Download DroneBlocks:** <https://www.droneblocks.io/app>
- **Download DroneBlocks Code:**  
<https://www.droneblocks.io/droneblocks-code>



# SOURCES



- **Figure 2:** <https://www.twi-global.com/technical-knowledge/faqs/engineering-design-process>