

My Robotic Friend

This activity is a great way to show the power of coding. The robot can only do what you tell (or code) it to do.

What you will need

- 15 plastic or paper cups
- Paper and pencil
- Access to the [Symbol Key](#) (either online or print out)
- Access to the [Cup Stack Patterns](#) (either online or print out)

Things to think about before you start

- **An algorithm** is a list of steps to solve a problem. What everyday tasks do you do using an algorithm? For example what steps (or routine) do you have for getting up in the morning or going to bed. How following a recipe to cook something like an algorithm?.
- **Debugging** is troubleshooting a problem with your program. What are some strategies you can use to debug your program?
- Look over the [Symbol Key](#) and talk or think about how you will use the symbols to **code** your **robot**.

The roles

- Robot
 - One person starts as the robot.
 - Hang out in a different room while the coder picks the cup stack patterns and writes the code.
 - When the coder is done, they will hand you the code. Follow it exactly, even if it doesn't make sense. You are a robot, you don't know anything except for what the symbols mean and to follow the code that you are given.
- Coder(s):
 - Pick a [cup stack pattern](#).
 - Think about an algorithm you can use to solve this problem.
 - With paper and pencil, write code using the symbol key for the robot to follow to build the stack you picked.
- Debugger(s):
 - When the code is done, have the robot come back and try to run the code. Be sure there is no talking while the robot is running the code.
 - Afterwards, if there was a "bug", talk about what went wrong.
- Pick new roles and repeat!