INTRO TO *PROGRAMMING*: FUNCTIONS

WHAT IS A FUNCTION?

Like we mentioned in the Imagine step, a program is simply a set of instructions for a computer to follow. Let's look at a common type of instruction for humans: a recipe. 👨‍🍳👩‍🍳🍳

When following a recipe, you will probably notice that not every step is fully detailed. The recipe may ask you to whisk the eggs 🥚 for two minutes, but it probably won't explain what whisking is and how to do it – it expects you to know this already.

If every single action was written in full, the recipe would take forever to both write and read. The recipe can get away with not including this because most people already know how to whisk, so why not take advantage of what people already know?

The idea of replacing some instructions inside the main recipe with a key phrase is similar to the programming concept of functions. 💡

Remember that computers can not do anything on their own unless somebody writes a program that tells them how to do it. But, if somebody else has already written a program for a specific action, then why repeat all of that code? 🤔

Instead, they can package that code into a function that other programs can access. We can then call the function by name, and the computer will know to run the code contained within that function.

Some functions have already been created for our humanoid robot in the Flow programming language. The simplest form of these functions is called an action block.

ACTION BLOCKS

Each action block tells your robot to perform a particular action. These blocks act similarly to functions. When the action corresponding to a specific block is being performed, we say that the block is being executed.

You can add as many actions blocks to your code as you desire, but you will need to connect them all together to let the robot know the order in which they should be executed. 🅰️ ➡️ 🅱️

To connect two blocks, drag between the solid handle on the right of the first block you want to be executed and the hollow handle on the left of the second block you want to be executed.
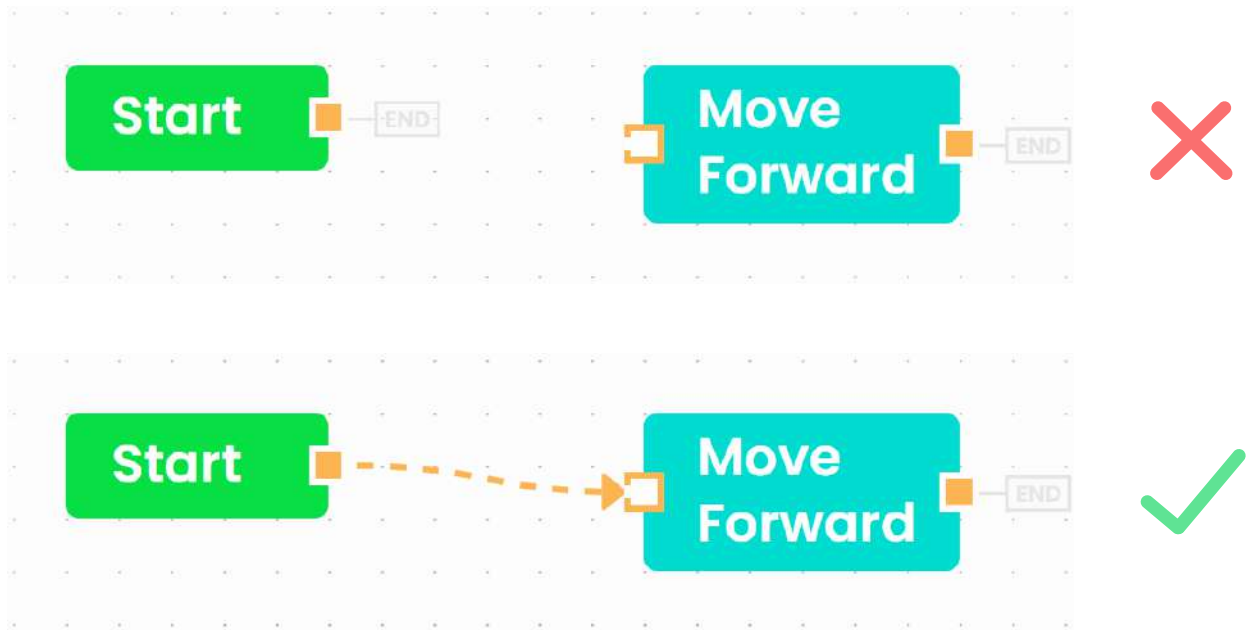
In most programming, including Flow, commands are run sequentially - they happen one at a time in a specified order. The direction of the resulting arrows will show you the order in which your Flow code will be run.

Your code will wait until the current action is complete before moving on to the next, meaning that only one action can be performed at once. 🤖