TACObot Movement

PART 1: Download TACObot Starter Project

1. Go to parksidelego.org and download the *TACObot Starter Project* onto your Chromebook
2. Go to spike.legoeducation.com, select "Spike Prime," click through to "Open Project" and open the `tacobot.llsp3` file you just downloaded
3. When prompted, click on "Save changes"

This starter project contains some new blocks that will make it easier for you to control your robot.

PART 2: New Movement Blocks

Once the project opens, notice that your coding canvas already has some blocks present.

Scroll down to the bottom of the available blocks list on the left. Notice there are some new additions under "My Blocks." Use these new blocks instead of the pink "movement" blocks to **raise and lower the arm** and **make your robot turn**.
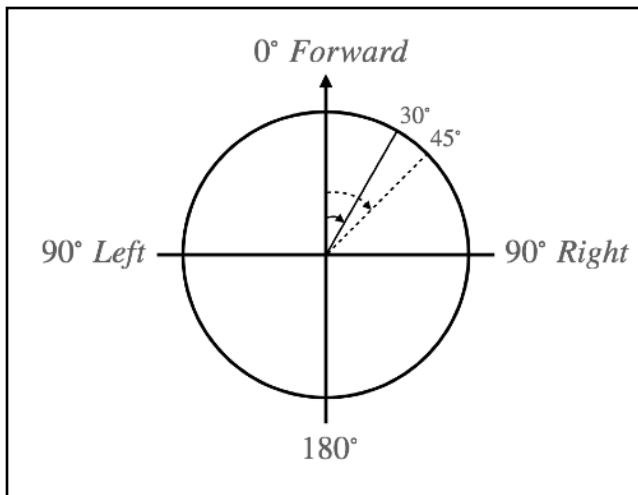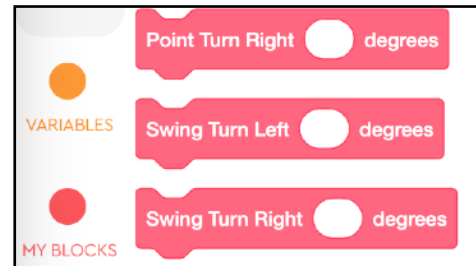

How do you tell your robot exactly how much to turn? Turn amounts are measured in units called *degrees,* often abbreviated by using a small circle next to the amount like this: $90°$.

A full circle contains 360 degrees, so you can specify amounts less than 360 to indicate a partial turn. For example, telling TACObot to turn right 180°
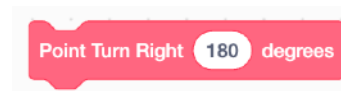
will cause TACObot to face backwards from its original direction since 180° is half of 360°. Try making some point turns and swing turns using different degree amounts and see how TACObot behaves.

TIP: Don't forget to set your movement motors to "D+C" and set your movement speed before adding any additional movement blocks.
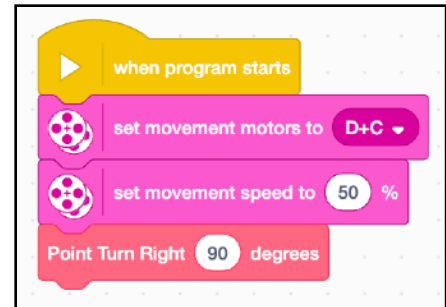
PART 3: My Blocks

Did you know you can make your own custom blocks just like the new movement blocks?
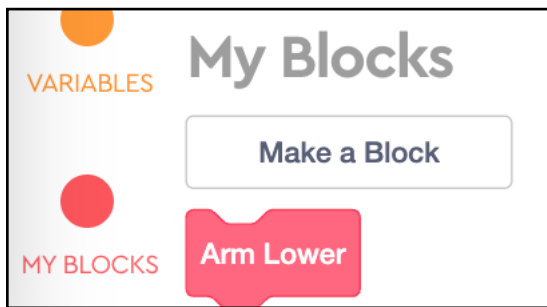
Click on the "Make a Block" button under "My Blocks." Give your block a name and click "Save." You should see a new red "define" block appear on the coding canvas and a new block with your name appear under "My Blocks."

Try adding some command blocks to your new block definition. You can use custom my blocks as shortcuts for behaviors you use often so you don't have to repeat yourself.

PART 4: Floor Maze Challenges

Program your TACObot to complete as many mazes as possible.

Rules:
- Your robot must start inside the start box and finish by lifting the goal lever
- Your robot cannot be touched at any time while it is running the maze
- Your robot must stay on or within the lines
- Demo your maze run to an adult before moving on to the next maze

TACObot # _____

Maze #	Done	Maze #	Done
1		5	
2		6	
3		7	
4			