

Ball Is Life / Sphero



Joel Garcia, Patrick Page, Nikki Mehdikhani, Daniel Redder

Meet the Team

- ❏ Joel Garcia, Software Developer Math focus, Senior
- ❏ Patrick Page, Systems and Security, Senior
- ❏ Nikki Mehdikhani, Enterprise Systems, Senior
- ❏ Daniel Redder, Data Analytics , Junior

So what is TAP?

- ❑ Students in TAP develop an educational technology demo for students to promote interest in technology, and develop a workshop to provide interactive education for programming fundamentals.
- ❑ Outreach
 - ❑ Super Saturday series
 - ❑ Classroom workshops
 - ❑ TAP exposition
 - ❑ CREATE



Mission

- ❑ Developing an easier way to teach programming fundamentals (loops, functions, if-statements)
- ❑ Spread interest, and knowledge about Information Technology
- ❑ Break down popular culture stigma around programming: (hacking scenes)
- ❑ Using a familiar activity to accelerate learning in programming

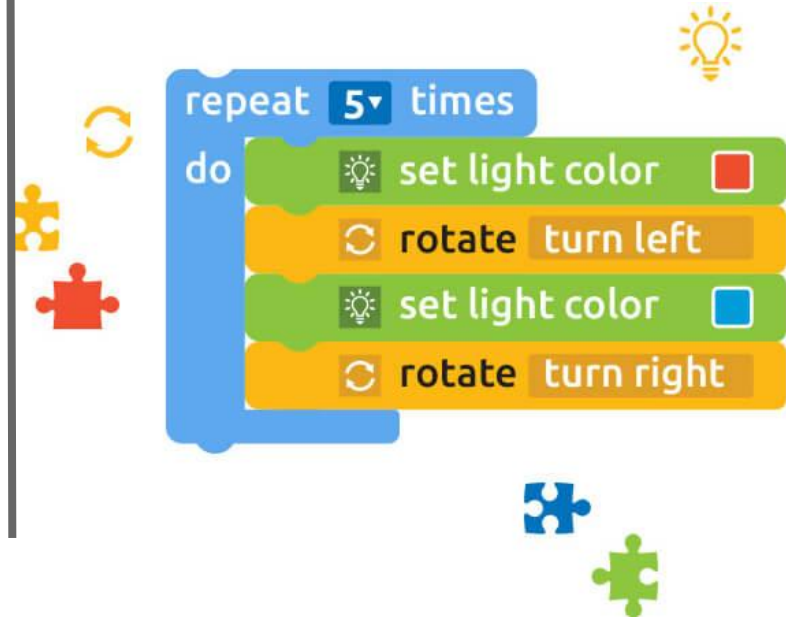
What do you know?



What is programming and block coding?

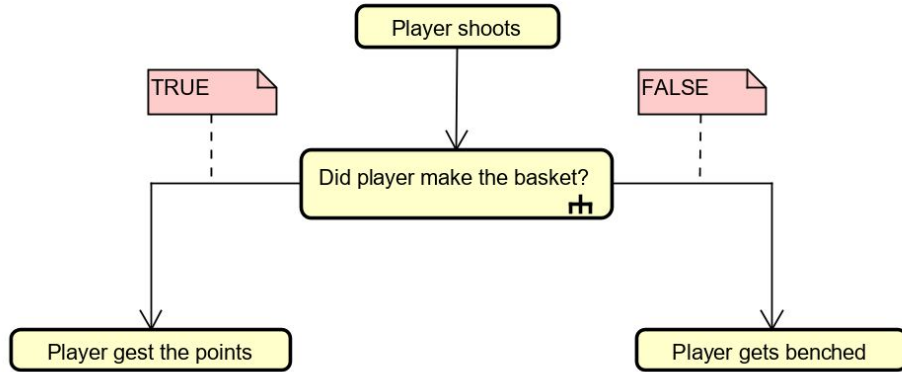
- ❑ Set of instructions for a computer to execute a certain task(s)
- ❑ Why program? Computers are faster than humans and more efficient.
- ❑ Program using programming languages (Java, C#, Python, Javascript, Ruby)
- ❑ Convert algorithms into code

- ❑ Simplified programming language.
- ❑ Great for beginners
- ❑ Drag and drop

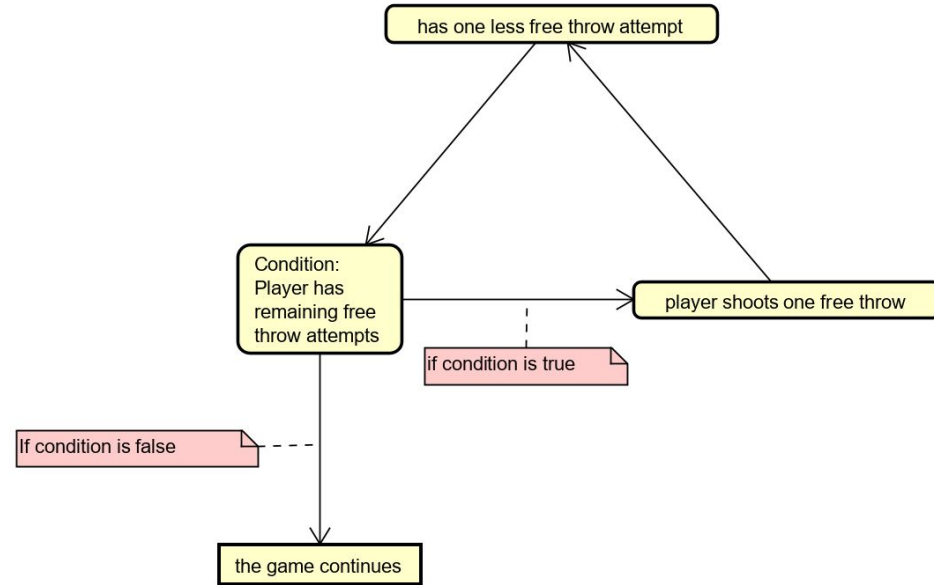


If / Else, Loops, Functions

If/Else



Loop

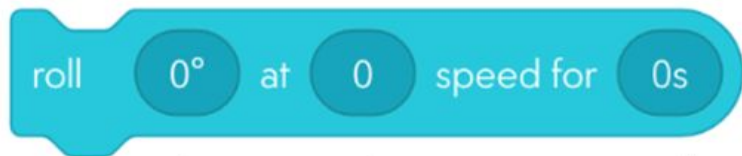


Our Technology



A programmable robot sphere that can spin, glow different colors, and detect whether it is falling or has hit something.

Moving with Code

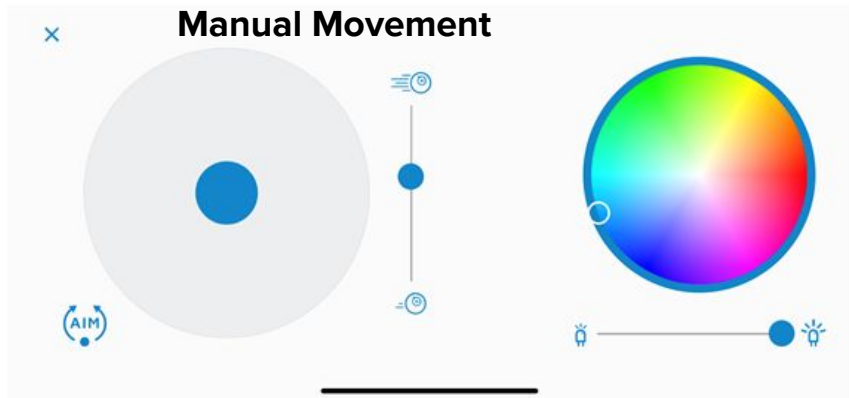


Heading

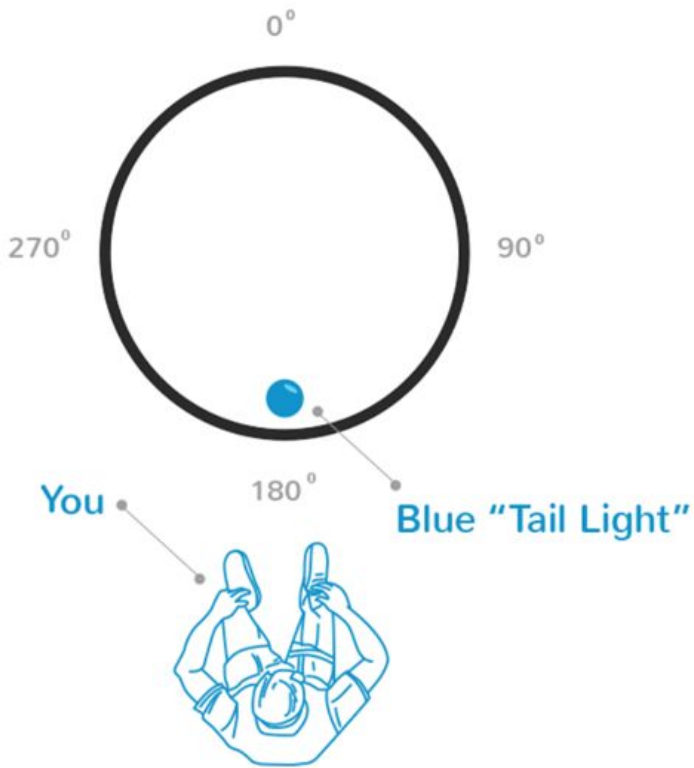
Speed

Time

Manual Movement



Forward



Split Into Groups

Sign in to your account



▶ username or email*

TAPggc

password*

ballislife

Sign In

[Forgot password](#)

[Sign Up](#)

OR



Sign in with Google



Sign in with Clever

[More Information](#)

Create a new program



Create a Program

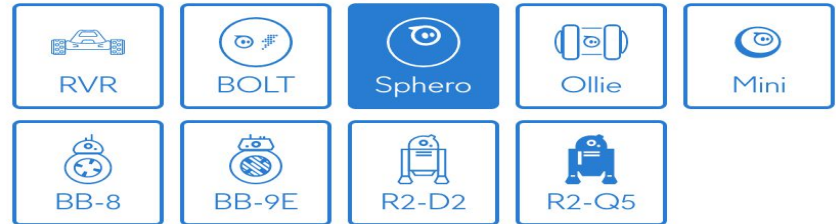
1 Name your program

workshopDemo

2 Choose Program Type



3 Choose Compatible Robots



Cancel

Create

Welcome to the Canvas

The image shows the Sphero Edu web interface. At the top, there's a title bar with 'Sphero Edu' and a 'Start' button. Below the title bar is a large white canvas area. On the left side of the canvas, there's a small black block labeled 'on start program'. At the bottom of the canvas, there's a toolbar with various blocks: 'roll', 'at', 'speed for', 'stop', 'speed', 'heading', 'spin', 'for', 'raw motor left', 'right', 'for', 'stabilization', 'reset aim', and 'main LED'. Below the toolbar is a navigation bar with tabs: 'Movements', 'Lights', 'Sounds', 'Controls', 'Operators', 'Comparators', 'Sensors', 'Events', 'Variables', and 'Functions'.

Sphero Edu

← Start

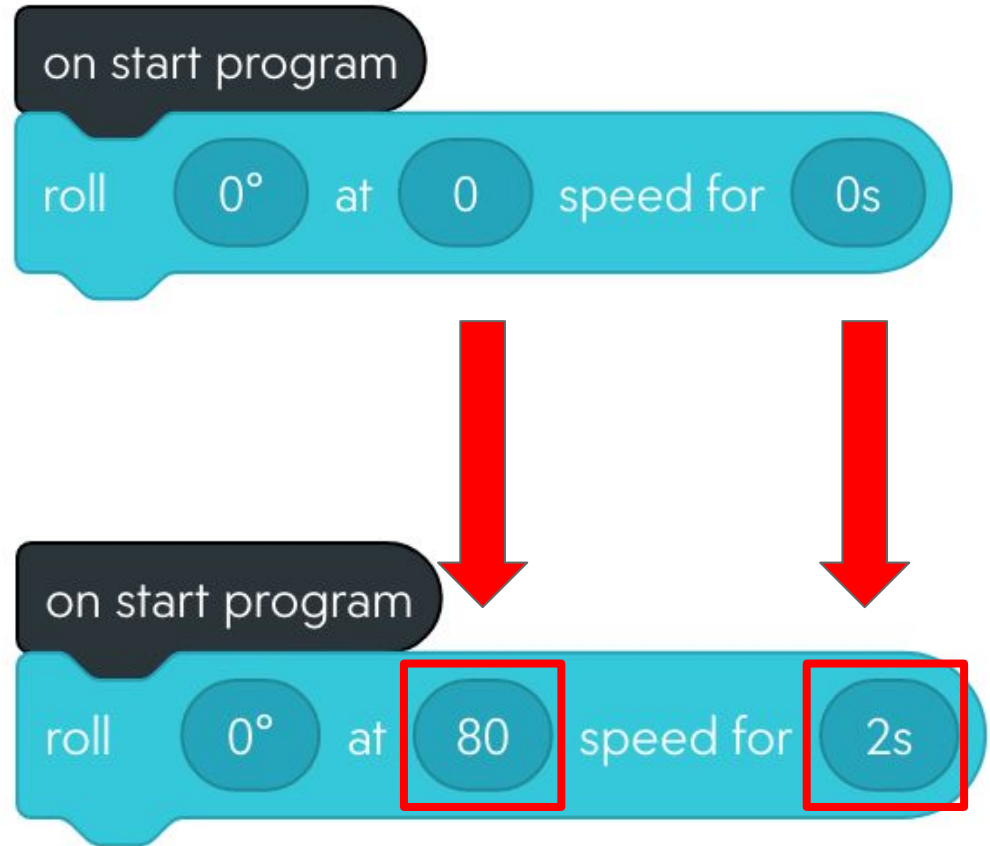
on start program

roll 0° at 0 speed for 0s stop speed 0 heading 0° spin 0° for 0s raw motor left 0 right 0 for 0s stabilization on reset aim main LED

Movements Lights Sounds Controls Operators Comparators Sensors Events Variables Functions

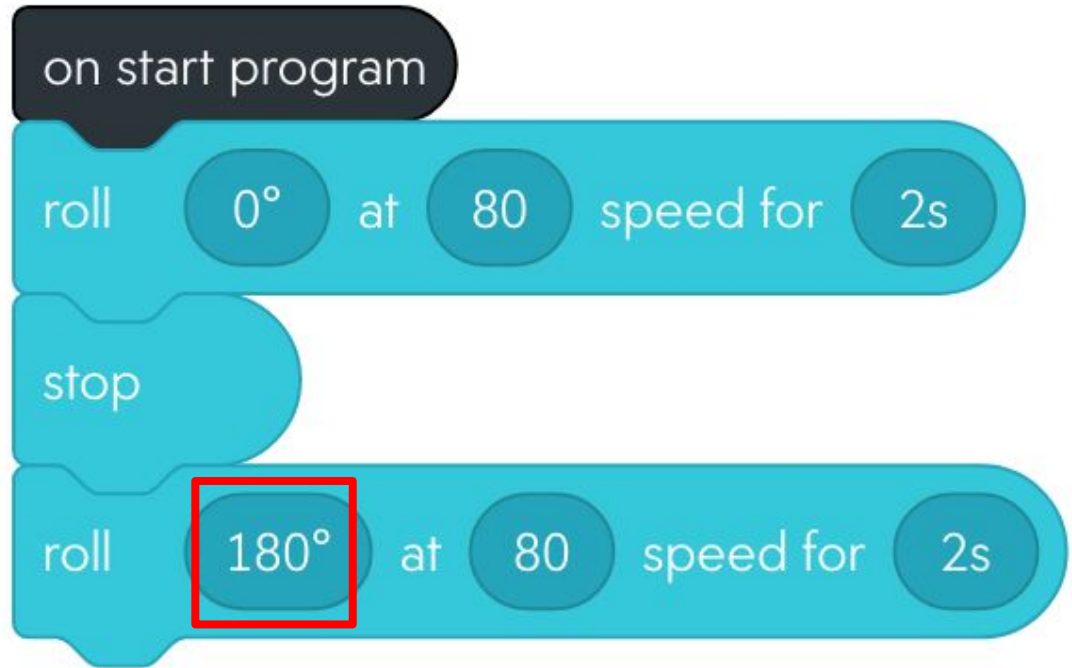
Make Sphero move Forward

- ❑ Click on movements tap
- ❑ Drag Roll function onto canvas
- ❑ Adjust parameters



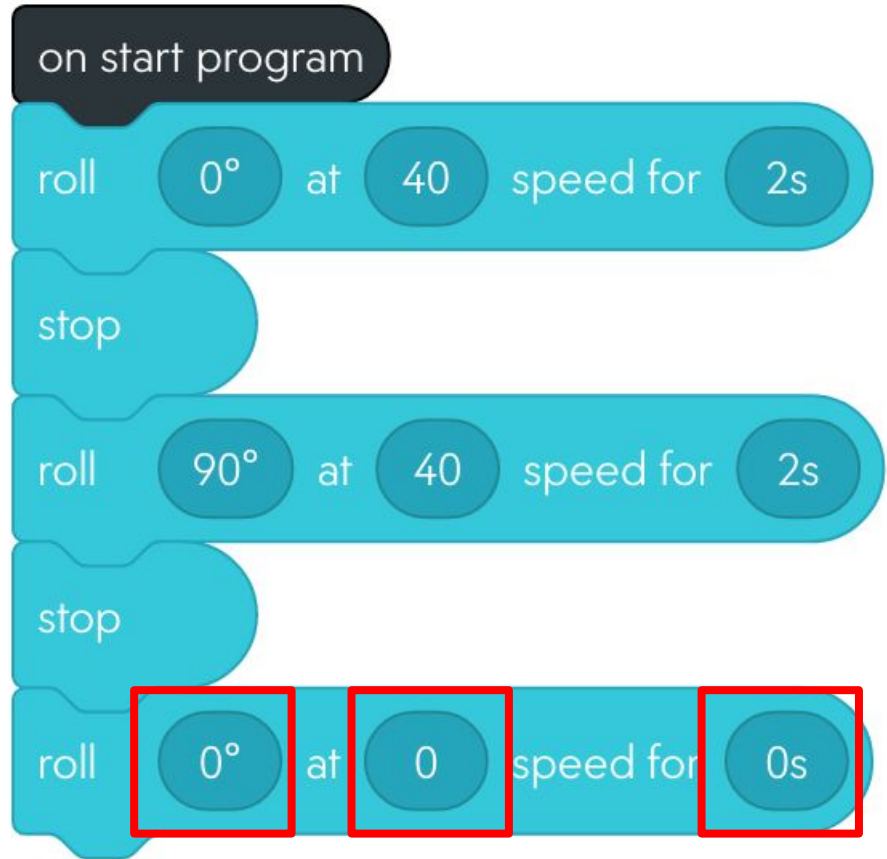
Now Backwards

- ❑ Adjust the first box to allow Sphero to change direction



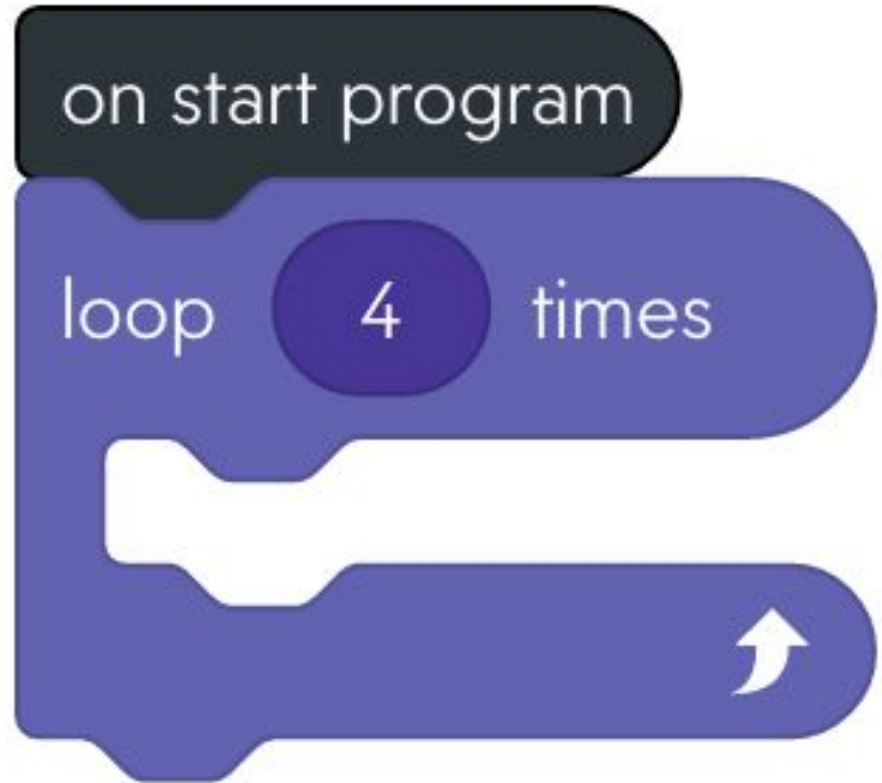
Let's make a Square

- Using what we have here can you finish the square?



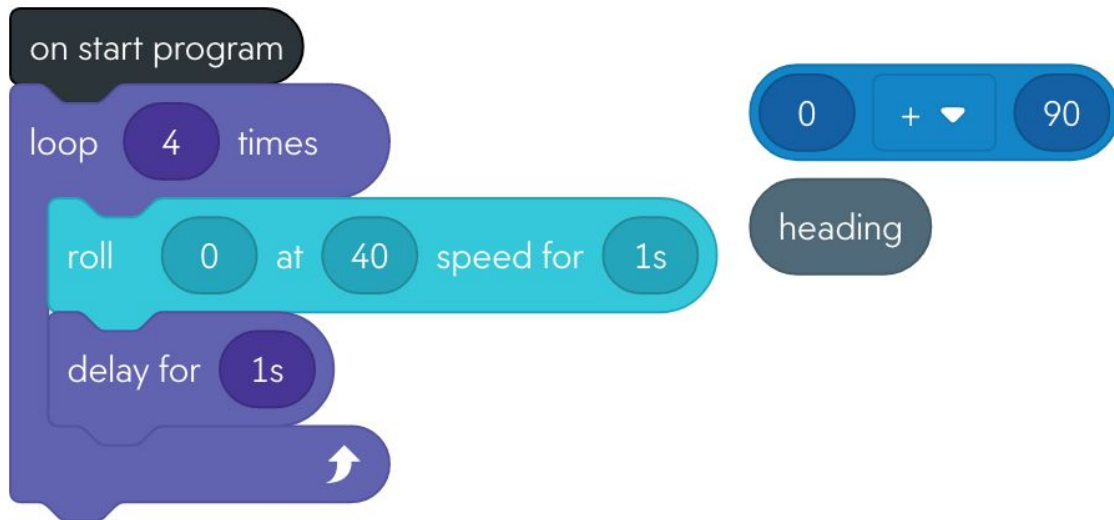
Using loops to make a Square

- ❏ Grab the **loop** block under **Controls**



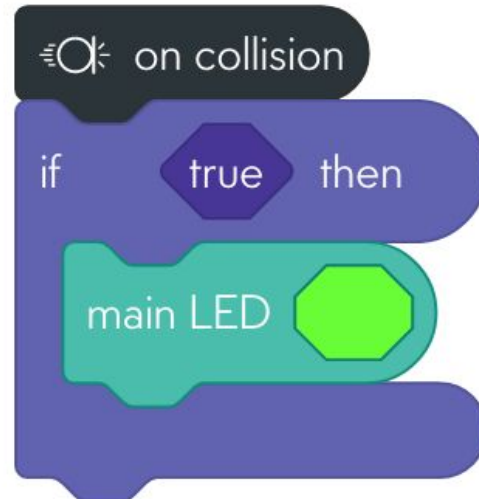
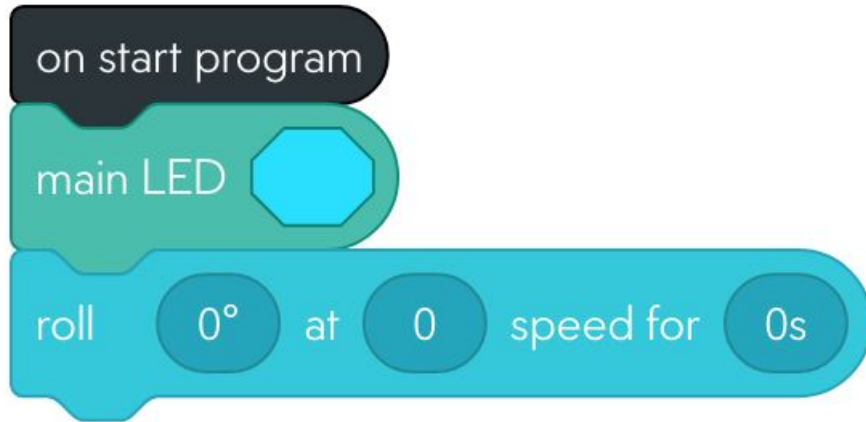
Loops

- ❏ Now grab the **roll** block and **insert** it into the loop
- ❏ Grab the **addition** block from under **operators**
- ❏ Grab **heading** block from under **sensors**



If Else

- ❑ Under the events tap drag on freefall to the canvas
- ❑ on freefall will run alongside on start program
- ❑ If the Sphero falls it will turn from blue to green



Challenge!

- ❑ Create your own program!
- ❑ Grab cones and ramps
- ❑ Team with most creative program will win extra credit!



bit.ly/Tappost

Post Survey, Tell us your thoughts!

- ❏ Patrick Page - @macmanpat
- ❏ Joel Garcia - @ __JoeltheEagle__
- ❏ Nikki M. - @nikkimilani
- ❏ Daniel R. - 404 gram not found

Follow us a the gram