

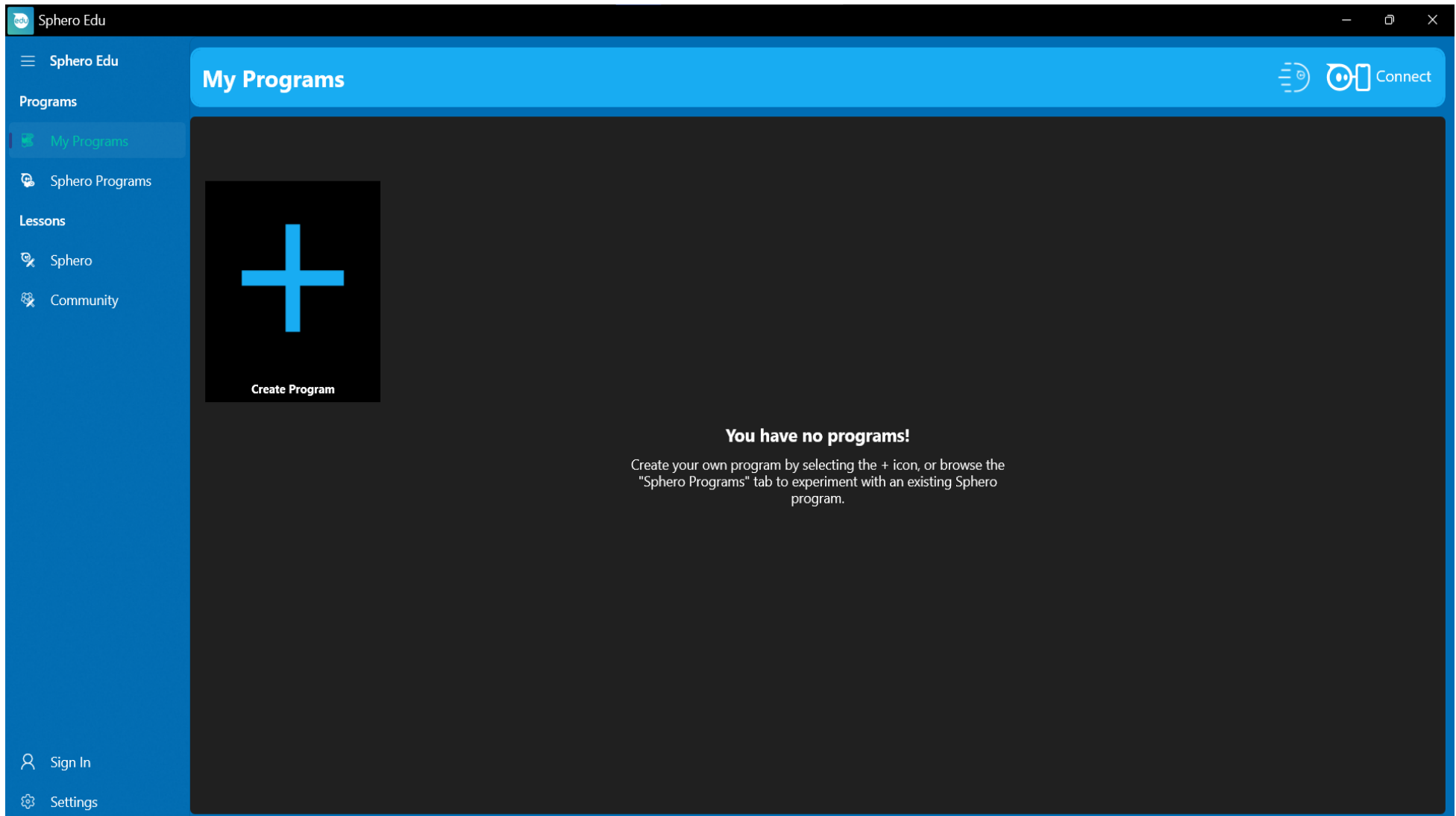
Using Sphero to Teach Programming Fundamentals (Ball is Life) Step-By-Step Guide

Using Sphero to Teach Programming Fundamentals (Ball is Life) – Step-by-Step Guide

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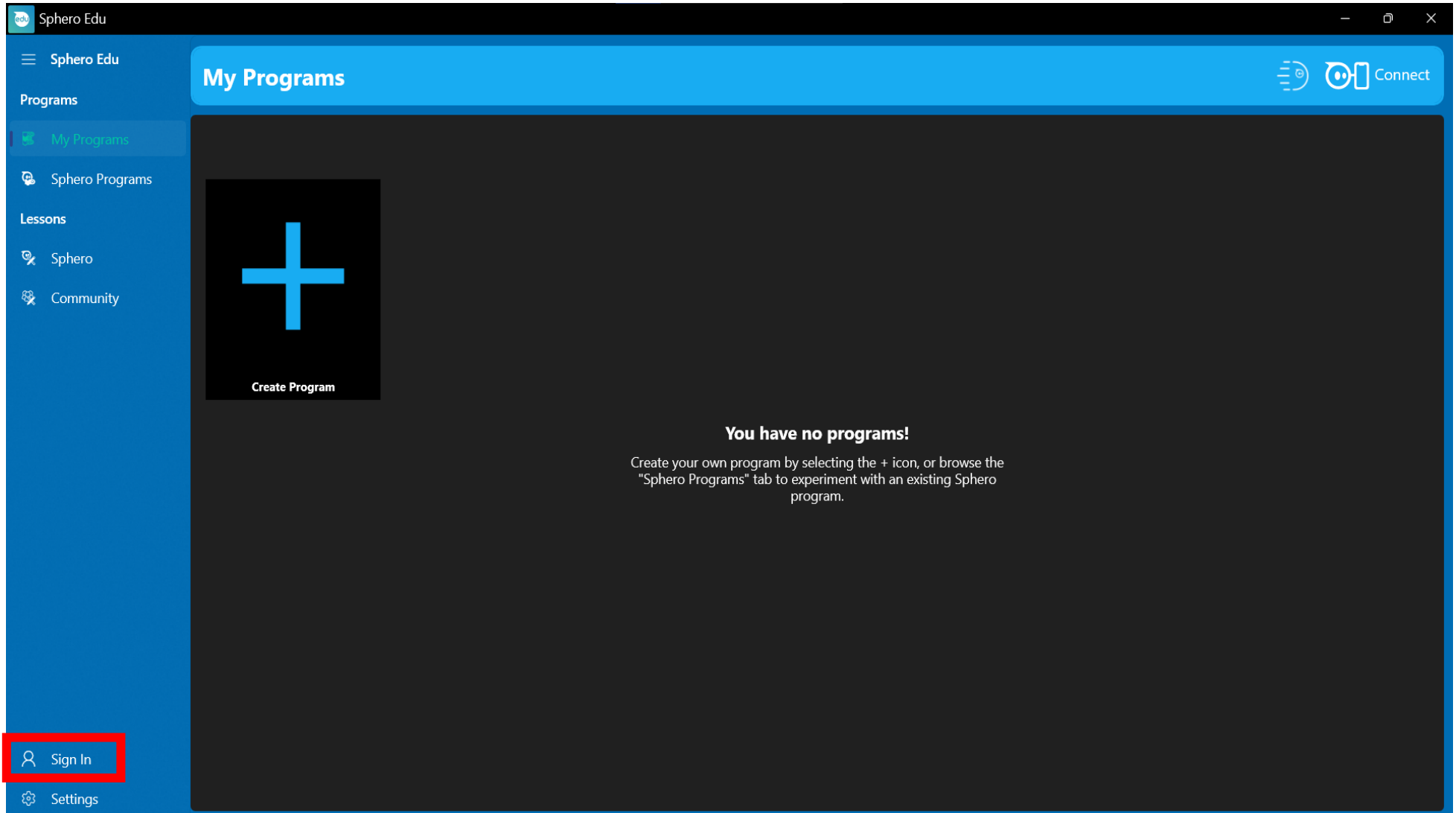


1) This section will cover how to enter a Sphero class and create a new program. Open SpheroEDU.

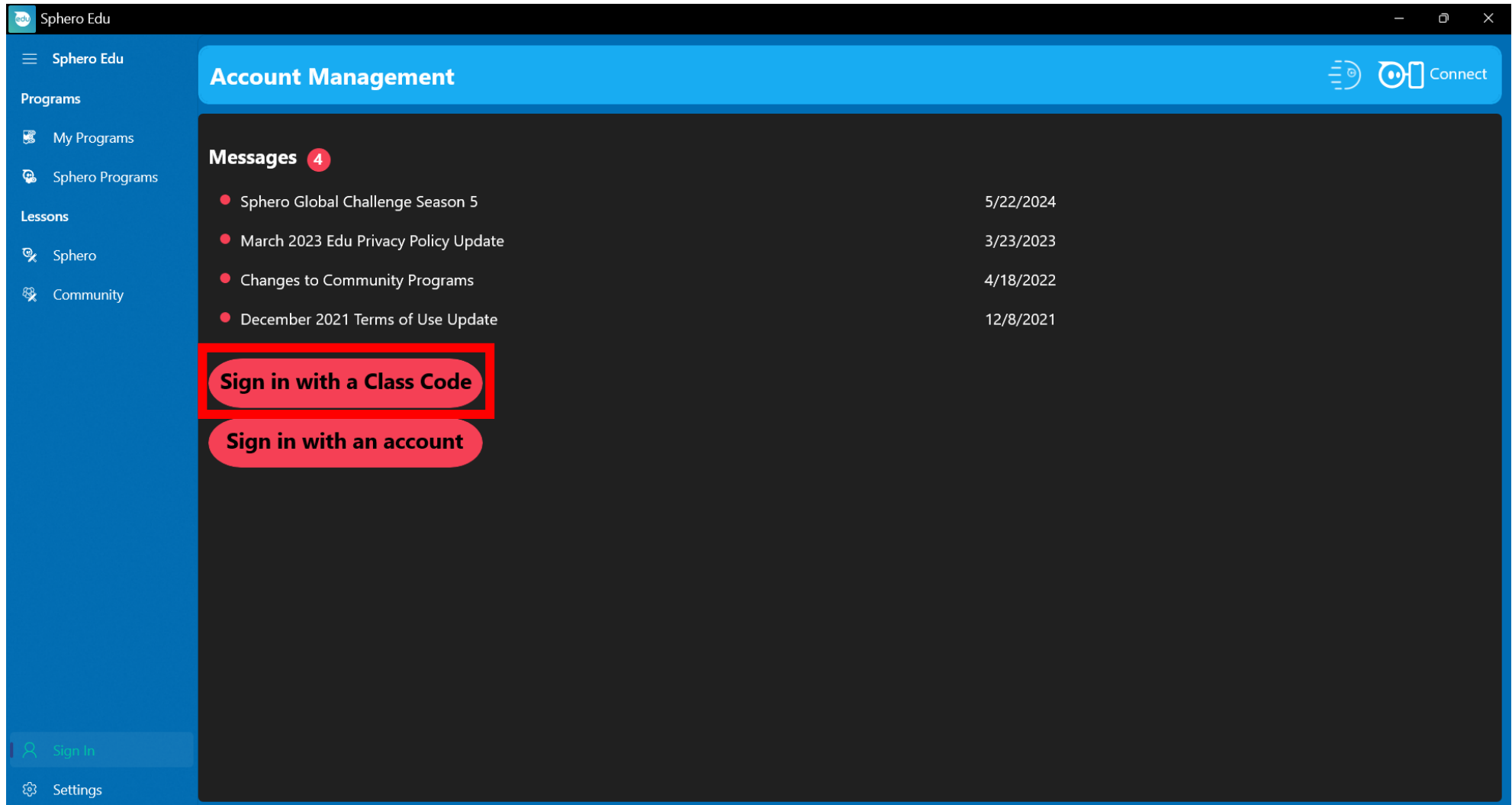




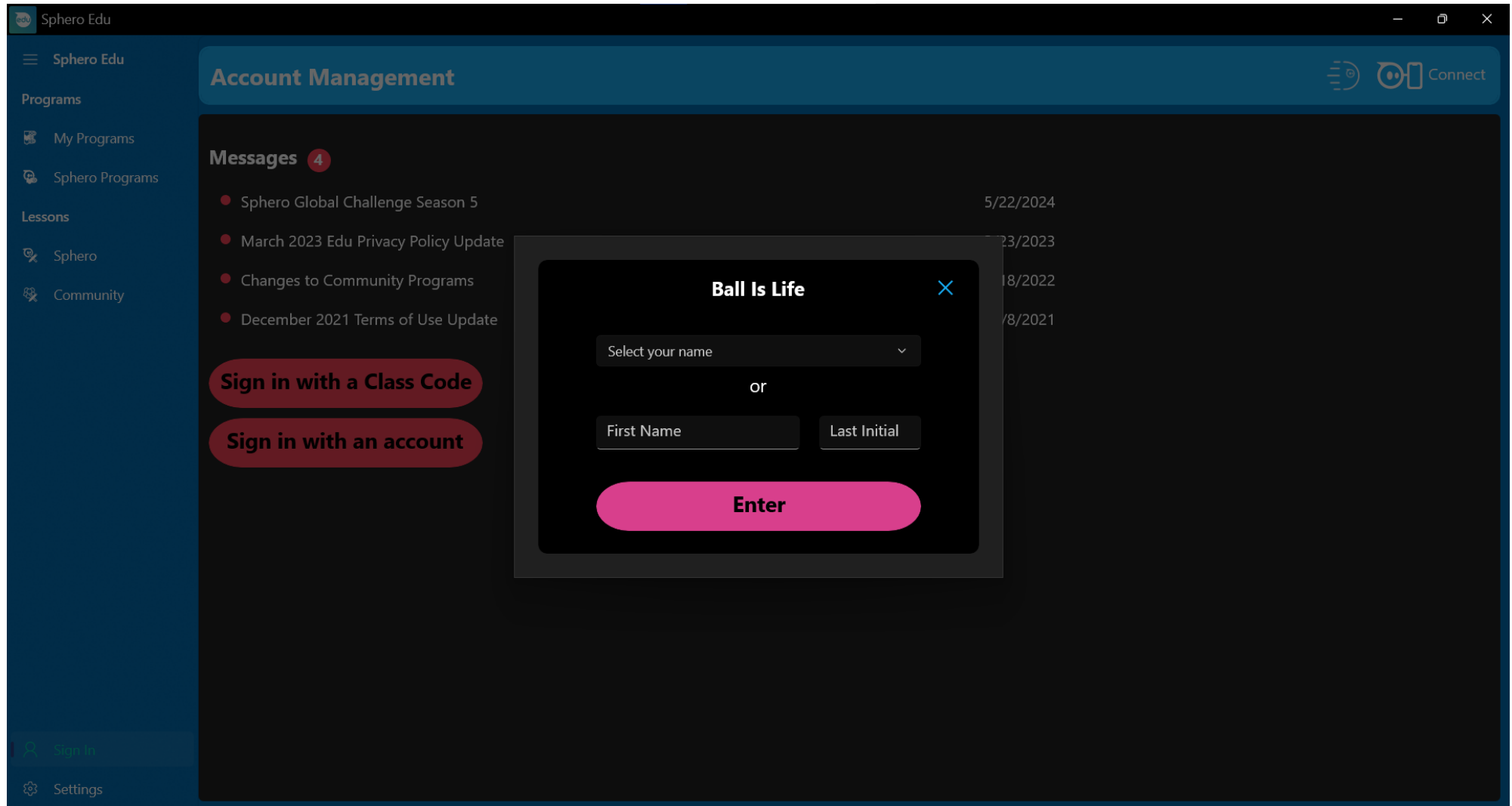
2) Click Sign In



3) Click sign in with class code and enter class code 8BP06K



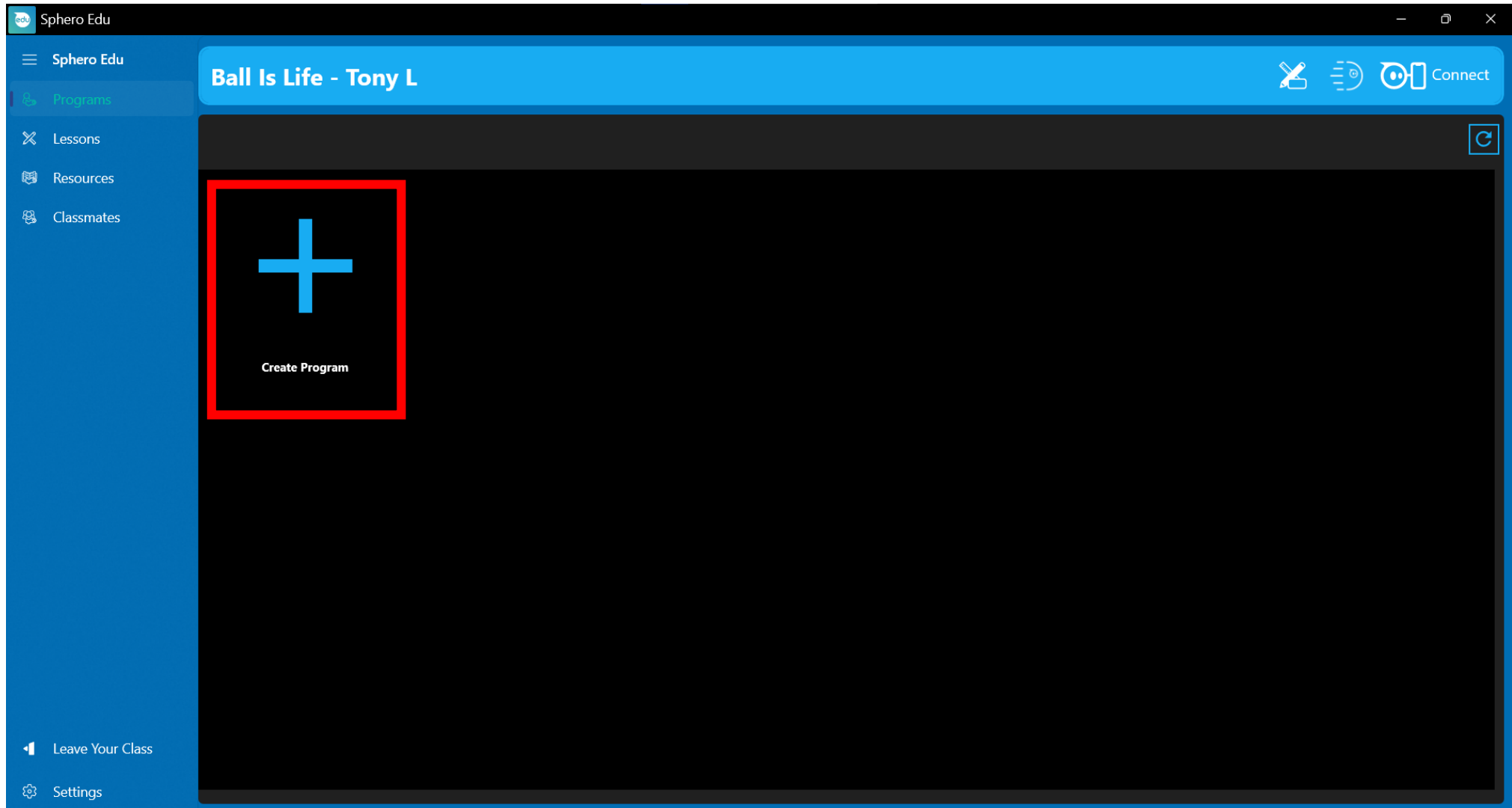
4) Enter your First Name and Last Initial and press Enter



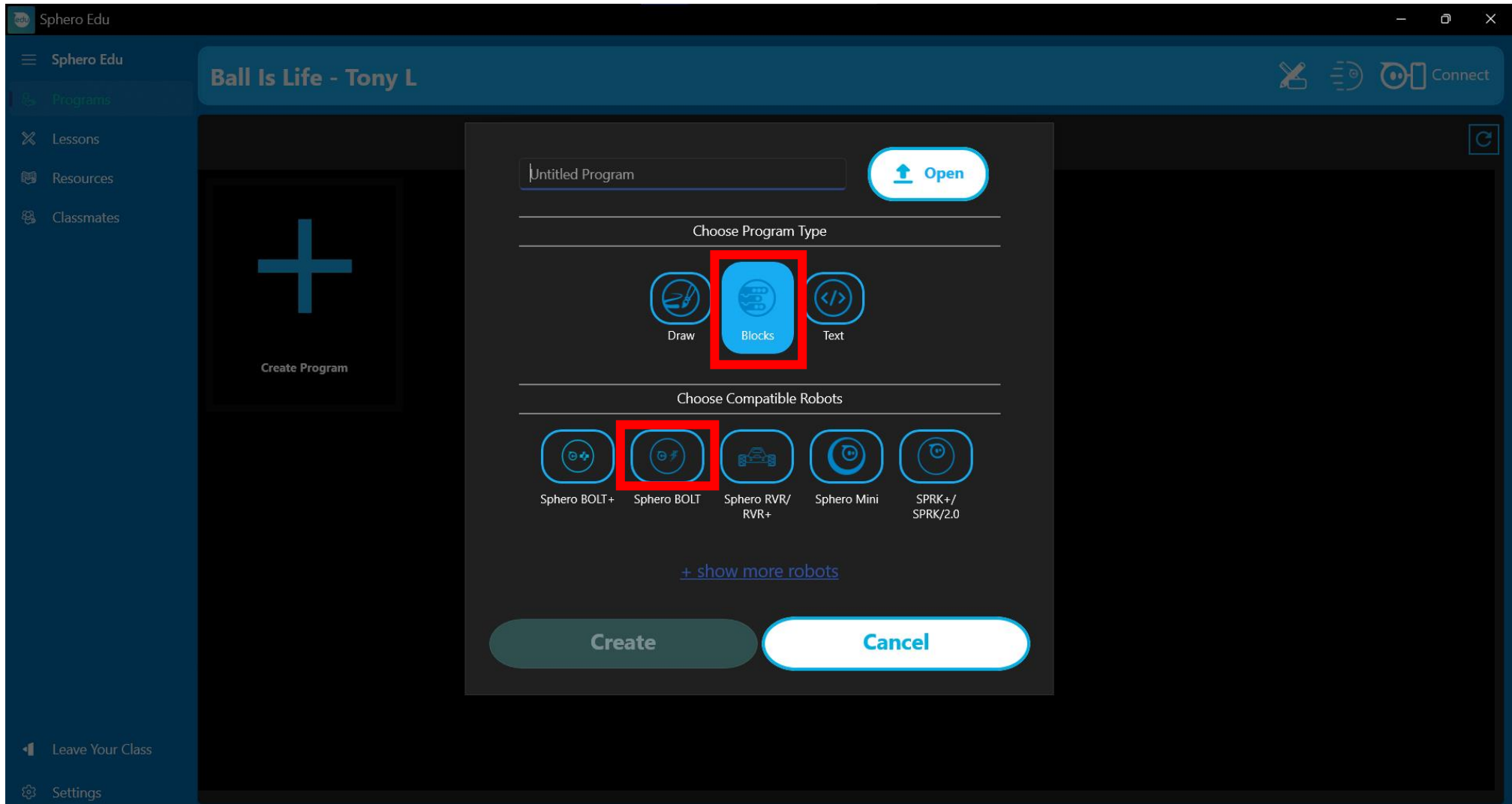
The screenshot shows the Sphero Edu web interface. On the left is a dark blue sidebar with navigation links: Sphero Edu, Programs, My Programs, Sphero Programs, Lessons, Sphero, and Community. At the bottom of the sidebar are 'Sign In' and 'Settings' links. The main content area has a dark blue header with 'Account Management' and a 'Connect' button. Below the header is a 'Messages' section with four items: 'Sphero Global Challenge Season 5' (5/22/2024), 'March 2023 Edu Privacy Policy Update' (23/2023), 'Changes to Community Programs' (18/2022), and 'December 2021 Terms of Use Update' (18/2021). In the center, a modal window titled 'Ball Is Life' is open. It contains a dropdown menu labeled 'Select your name', the word 'or', two input fields labeled 'First Name' and 'Last Initial', and a large pink 'Enter' button.



5) Click Create Program



6) Select Blocks and Sphero Bolt and then click Create

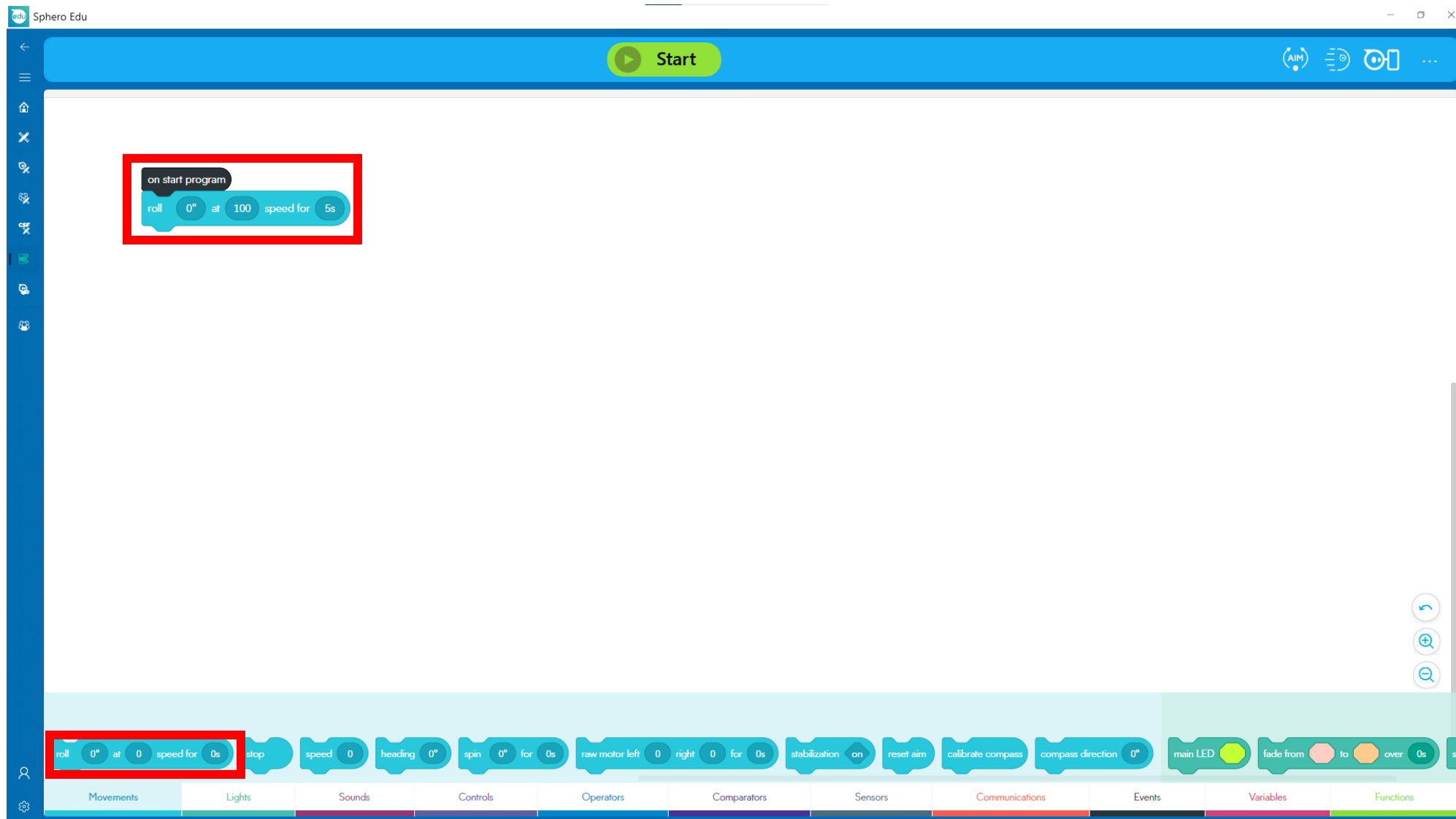


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- 1) This section will cover the square code. Go to the Movement tab and grab the function indicated below. Then drag it under “on start program” to attach the code block. Set the speed to 100 and time for 5 seconds.



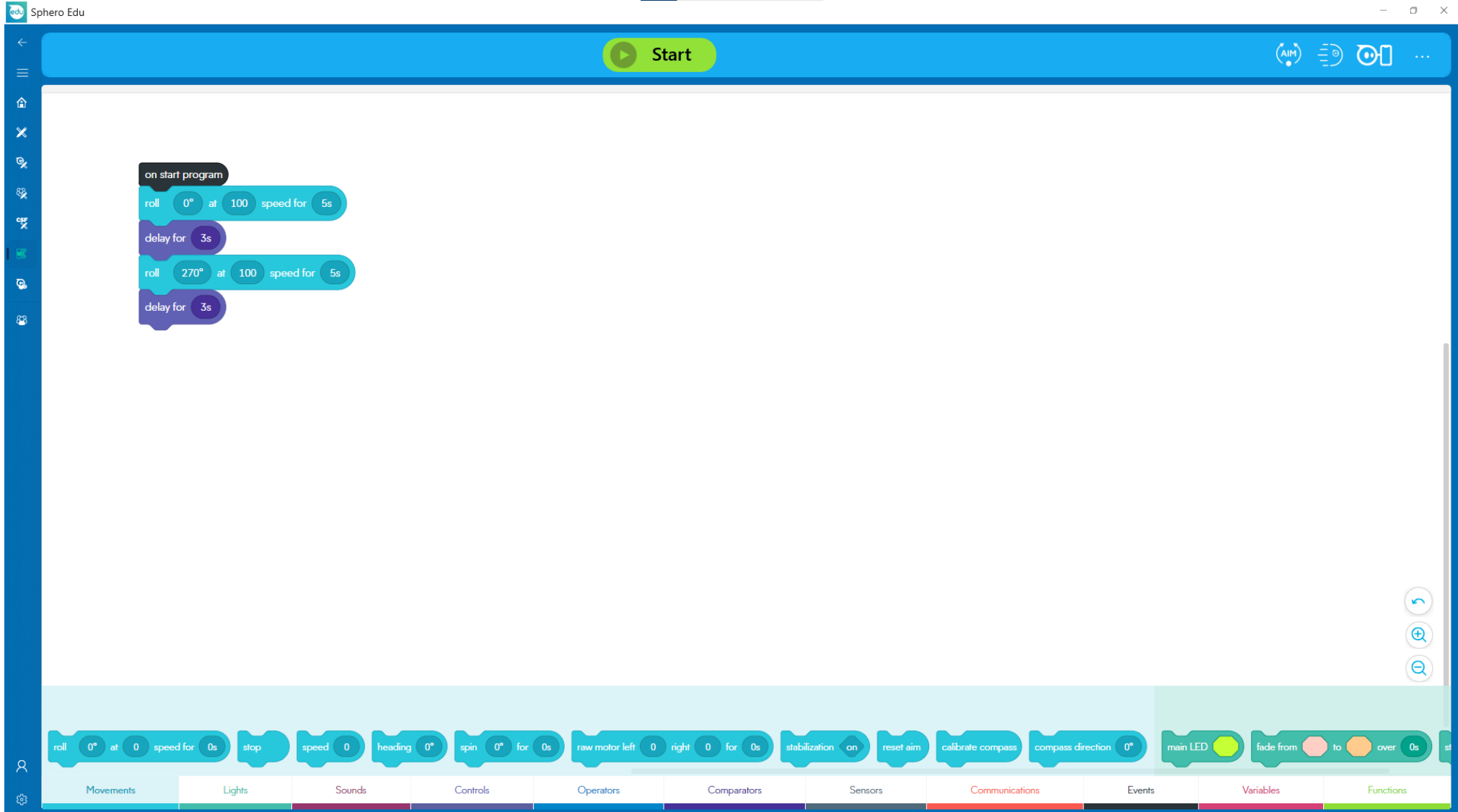
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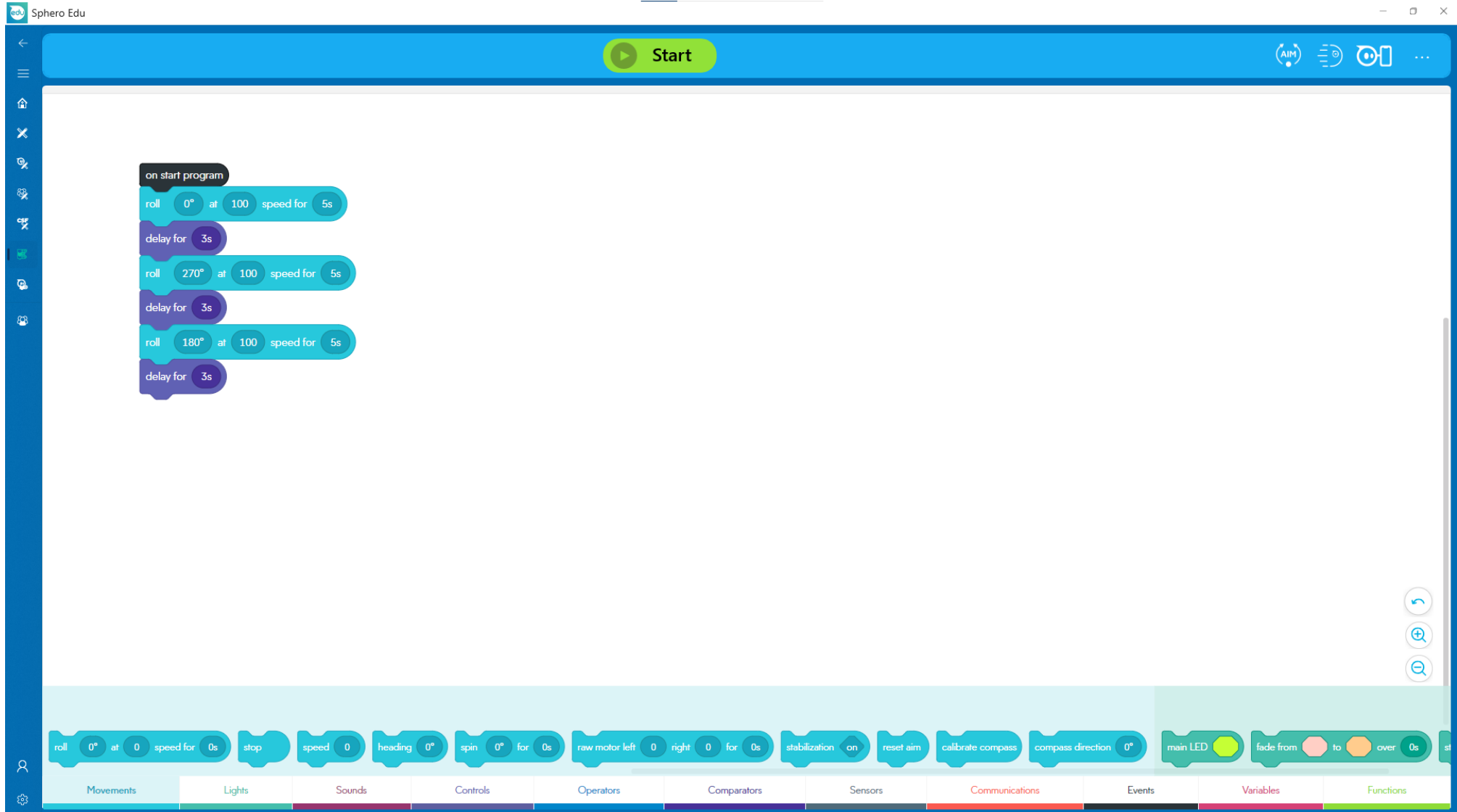
2) Go to the Controls tab and grab the “delay” block. Attach it to the code block and set the delay for 3 seconds.

- 3) Grab another movement block and set the roll to 270 degrees, the speed to 100, and the time to 5 seconds. Also attach a copy of the delay previous delay.



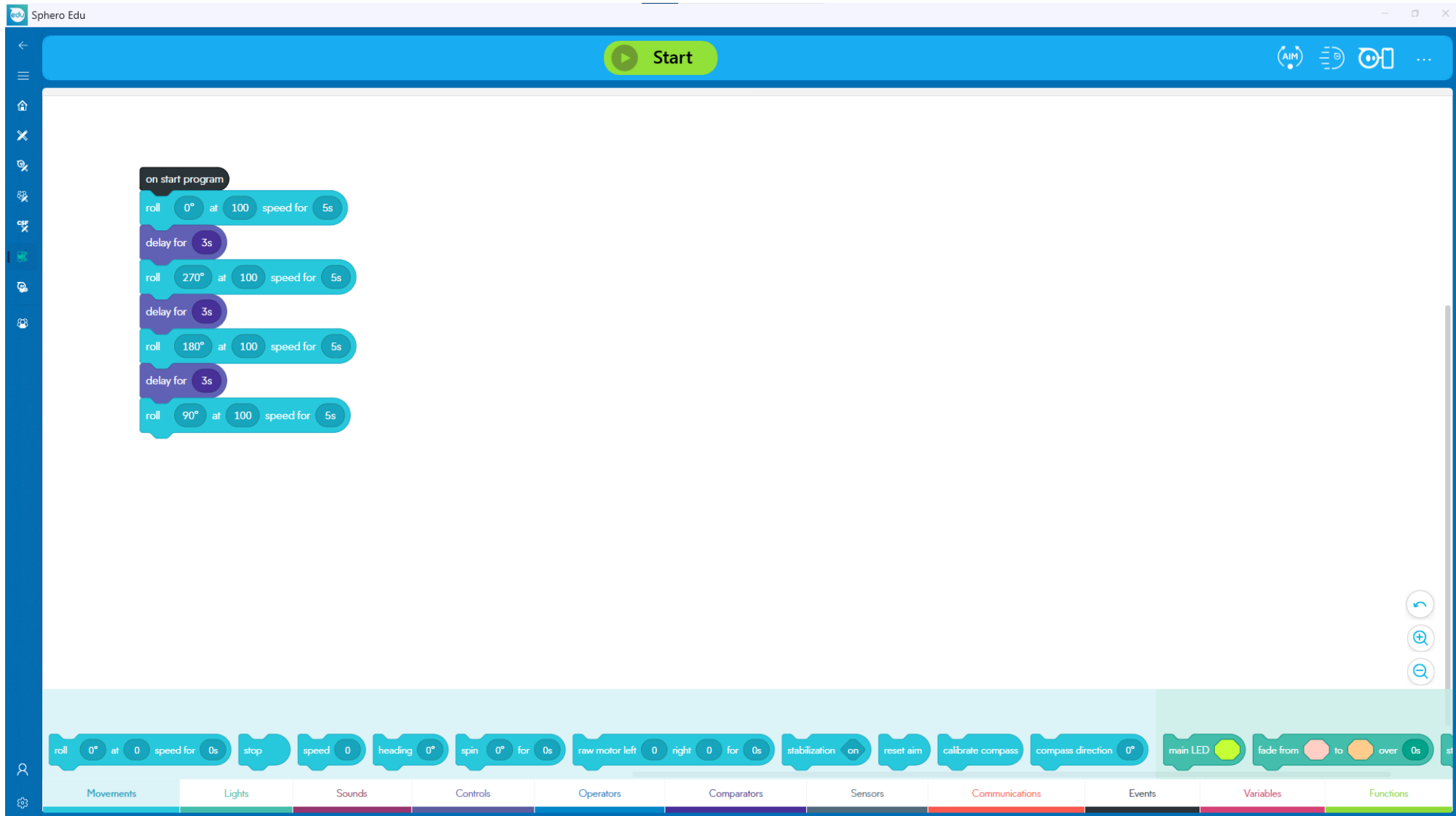
The screenshot displays the Sphero Edu web interface. At the top, there is a blue header bar with a 'Start' button. Below this, the main workspace shows a sequence of programming blocks for a Sphero robot. The sequence begins with an 'on start program' block, followed by a 'roll' block set to 0° at a speed of 100 for 5 seconds. This is followed by a 'delay for' block set to 3 seconds. The sequence then continues with another 'roll' block set to 270° at a speed of 100 for 5 seconds, followed by a final 'delay for' block set to 3 seconds. The bottom of the interface features a palette of various programming blocks categorized into Movements, Lights, Sounds, Controls, Operators, Comparators, Sensors, Communications, Events, Variables, and Functions. The 'Movements' category is currently selected, showing blocks like 'roll', 'stop', 'speed', 'heading', 'spin', 'raw motor left', 'raw motor right', 'stabilization', 'reset aim', 'calibrate compass', 'compass direction', 'main LED', and 'fade from'.

- 4) Grab another movement block and set the roll to 180 degrees. Keep the speed and time the same as the previous movement block.



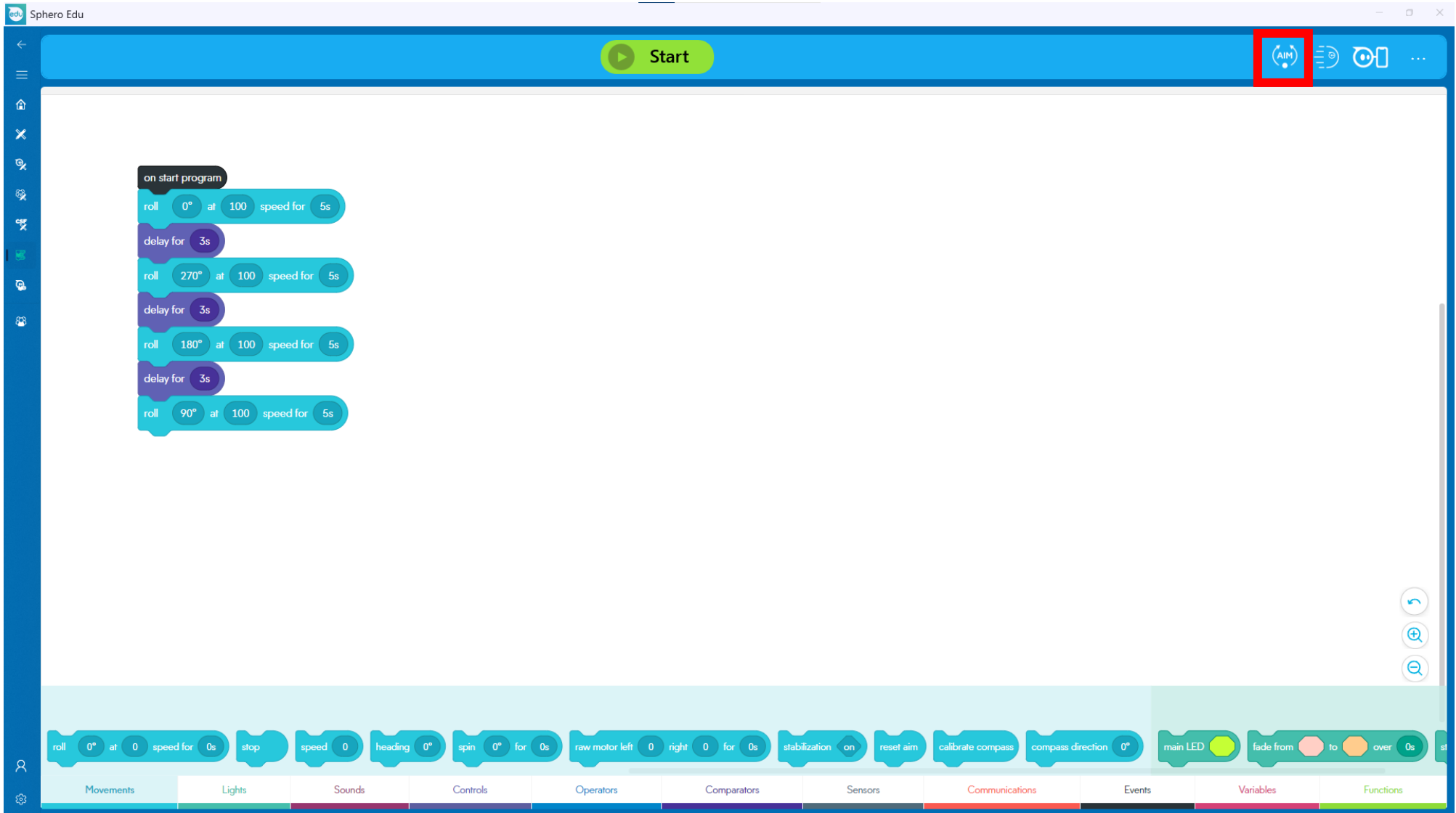
The screenshot displays the Sphero Edu web interface. At the top, there is a blue header bar with a 'Start' button and icons for AIM, a menu, a speech bubble, and a close button. On the left, a vertical toolbar contains icons for various functions. The main workspace shows a sequence of blocks starting with 'on start program'. This is followed by a 'roll' block set to 0° at 100 speed for 5s, a 'delay for' block set to 3s, another 'roll' block set to 270° at 100 speed for 5s, a 'delay for' block set to 3s, a third 'roll' block set to 180° at 100 speed for 5s, and a final 'delay for' block set to 3s. At the bottom, a horizontal toolbar contains various block categories: Movements, Lights, Sounds, Controls, Operators, Comparators, Sensors, Communications, Events, Variables, and Functions. Each category has a corresponding colored icon and a list of available blocks.

- 5) Grab another movement block and set the roll to 90 degrees. Keep the speed and time the same. A delay block is not needed for the last block.



The screenshot shows the Sphero Edu web interface. At the top, there's a blue header with a 'Start' button. Below the header, the main workspace contains a sequence of blocks for a program. The sequence starts with an 'on start program' block, followed by a 'roll' block (0° at 100 speed for 5s), a 'delay for' block (3s), another 'roll' block (270° at 100 speed for 5s), a 'delay for' block (3s), a 'roll' block (180° at 100 speed for 5s), a 'delay for' block (3s), and finally a 'roll' block (90° at 100 speed for 5s). The bottom of the interface features a palette with various block categories: Movements, Lights, Sounds, Controls, Operators, Comparators, Sensors, Communications, Events, Variables, and Functions. The 'Movements' category is currently selected, showing various movement-related blocks like 'roll', 'stop', 'speed', 'heading', 'spin', 'raw motor left', 'raw motor right', 'stabilization', 'reset aim', 'calibrate compass', 'compass direction', 'main LED', 'fade from', and 'fade to'.

6) Click on the AIM button to calibrate the Sphero



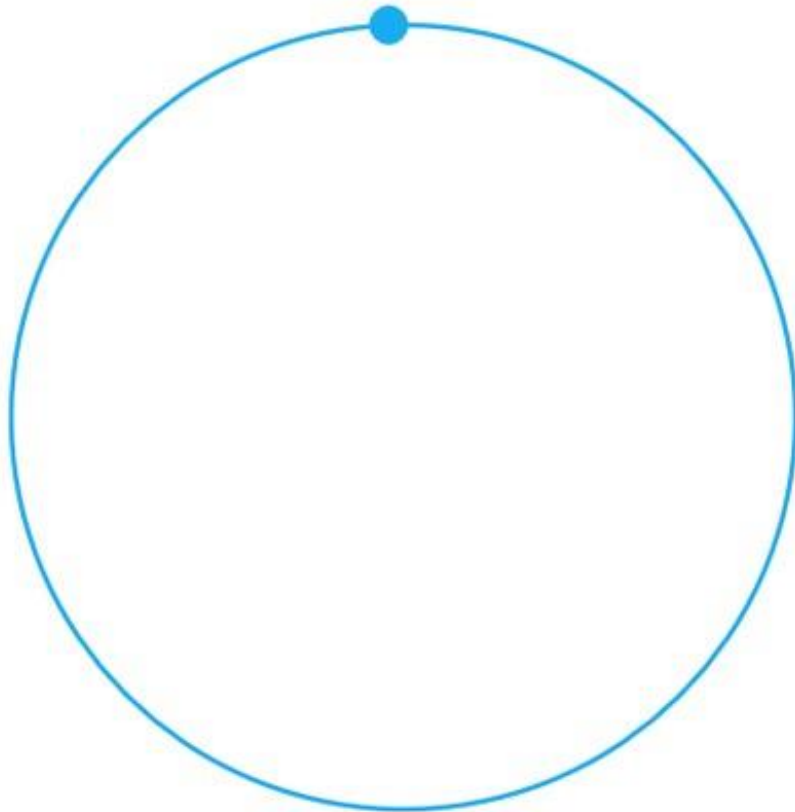
The screenshot shows the Sphero Edu web interface. At the top, there is a blue header bar with a 'Start' button. On the right side of this bar, the 'AIM' button is highlighted with a red square. The main workspace contains a program with the following blocks:

- on start program
- roll 0° at 100 speed for 5s
- delay for 3s
- roll 270° at 100 speed for 5s
- delay for 3s
- roll 180° at 100 speed for 5s
- delay for 3s
- roll 90° at 100 speed for 5s

At the bottom, there is a toolbar with various blocks categorized by function:

- Movements: roll, stop
- Lights: main LED
- Sounds: fade from, to, over
- Controls: speed
- Operators: heading, spin
- Comparators: raw motor left, right
- Sensors: stabilization, reset aim, calibrate compass, compass direction
- Communications: (empty)
- Events: (empty)
- Variables: (empty)
- Functions: (empty)

- 7) Adjust the light so the blue light on the Sphero is pointed towards you. You can click on the arrows or the arrows key on the keyboard can be used as well.



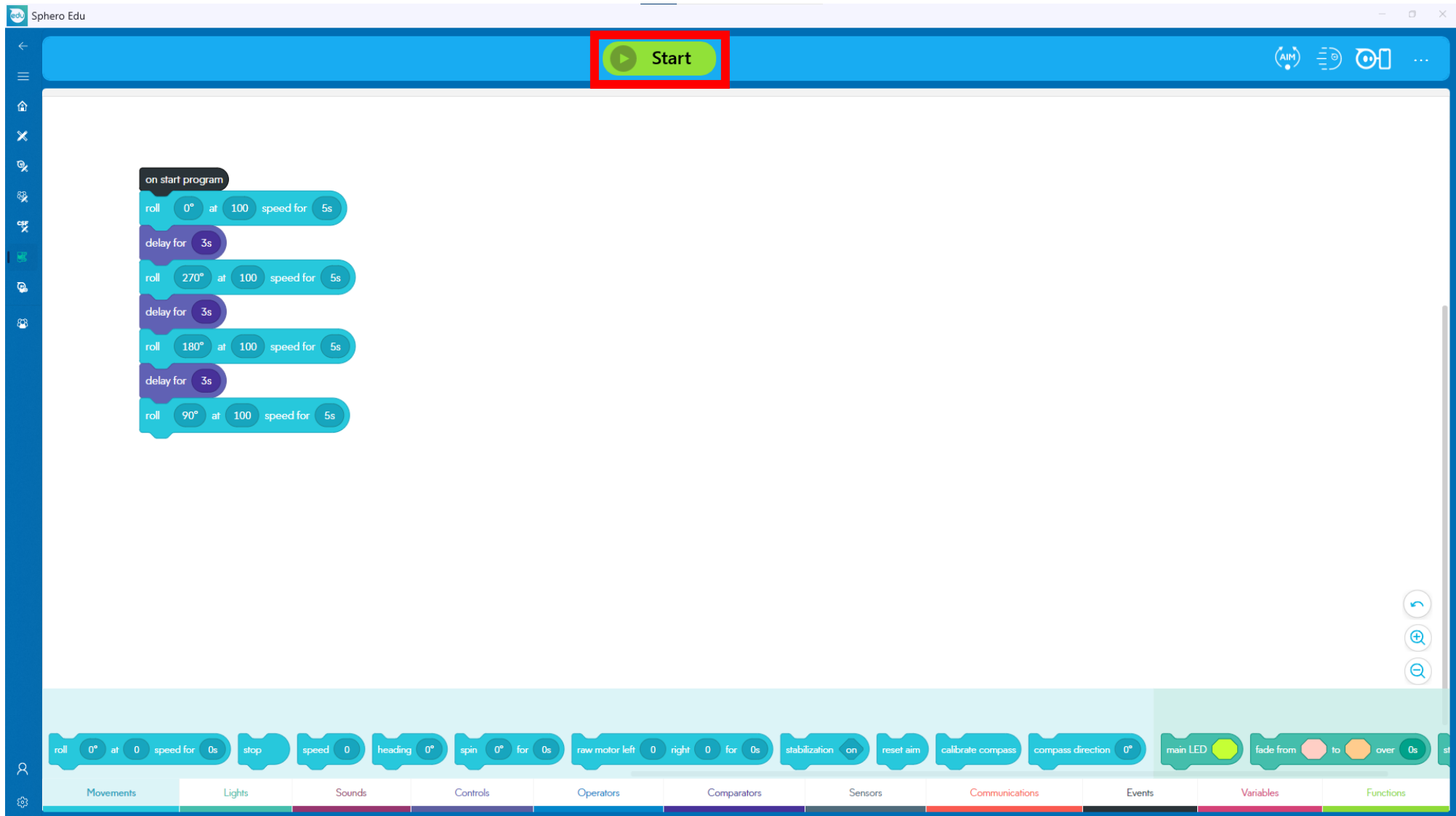
1. Place Sphero Mini on the ground.



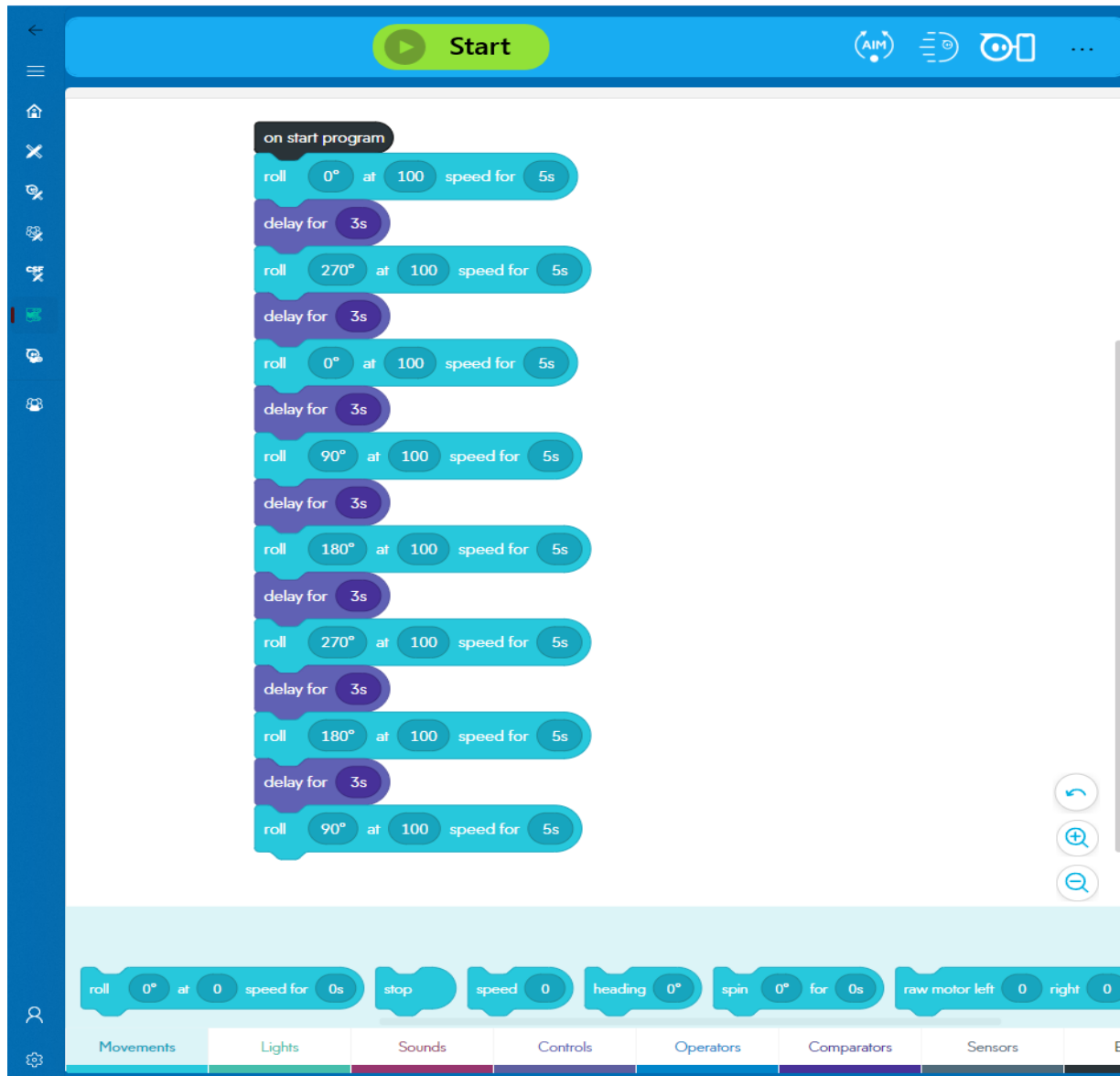
2. Drag the aim ring until Sphero Mini's blue tail light faces you.



8) Click the Start button to have the Sphero perform the program



1) This section will cover the figure 8 code. The solution for the code is given below.



2) Click the Start button to have the Sphero perform the program

