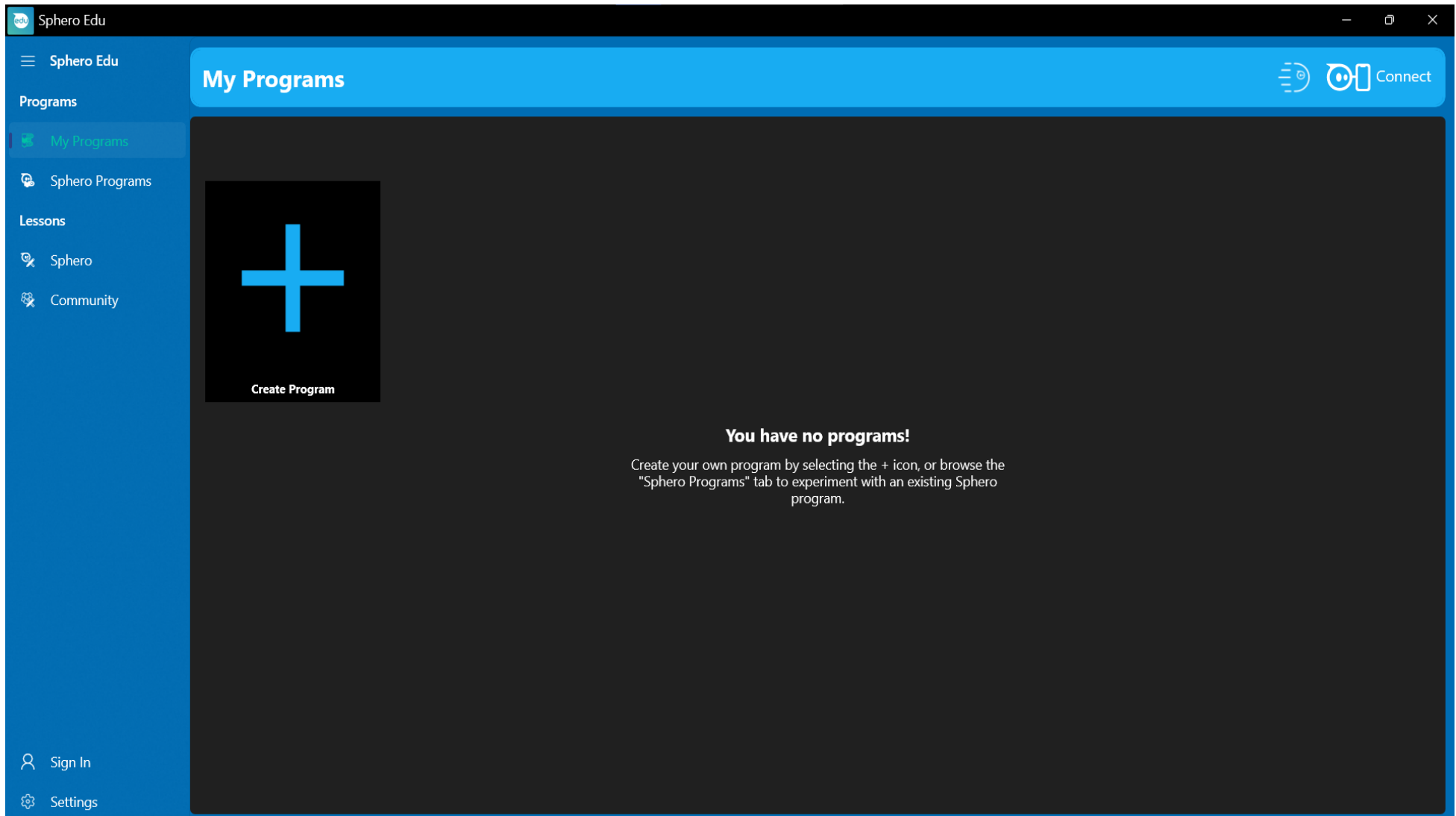


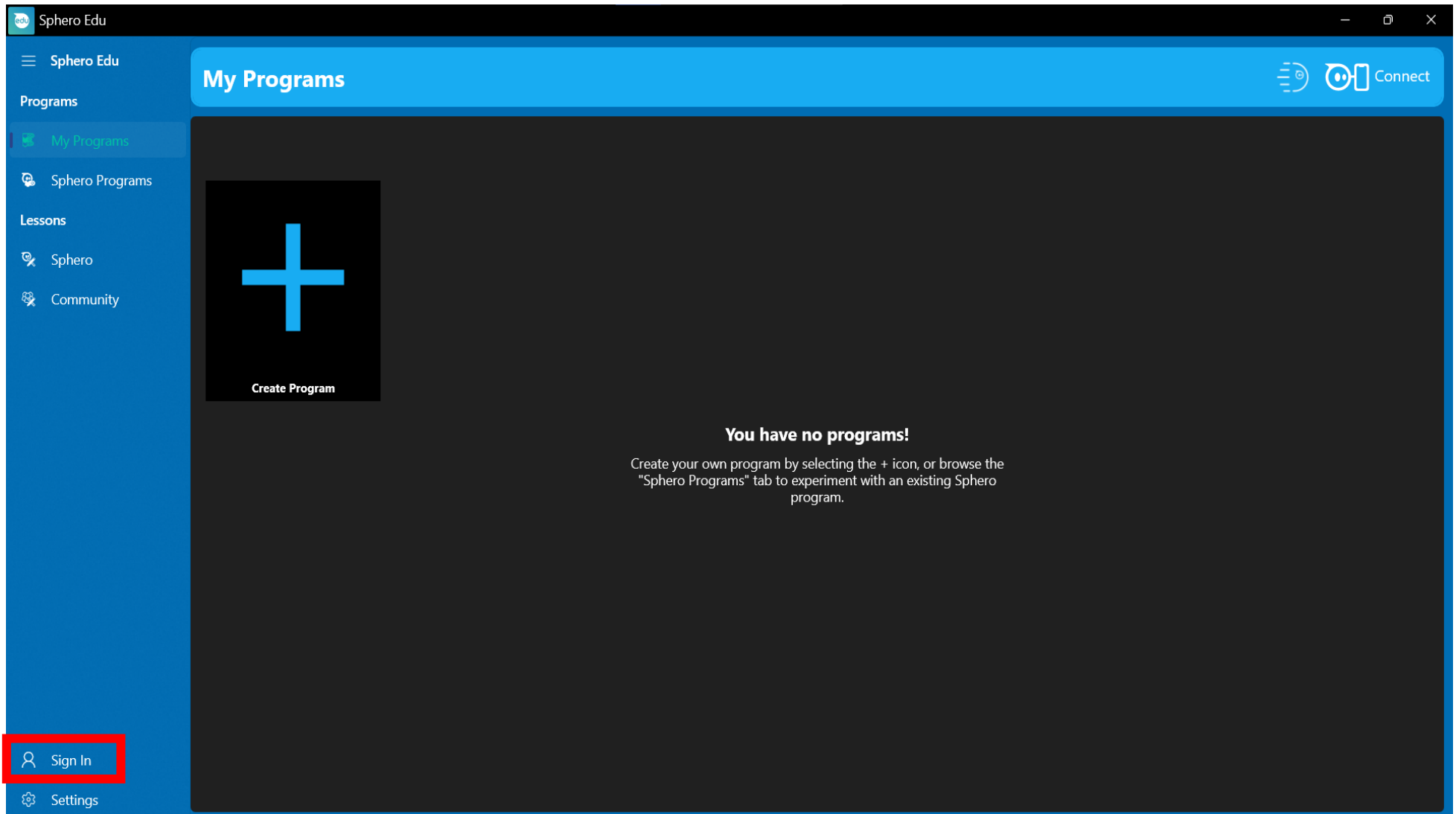
Using Sphero to Teach Programming Fundamentals (Ball is Life) Step-By-Step Guide



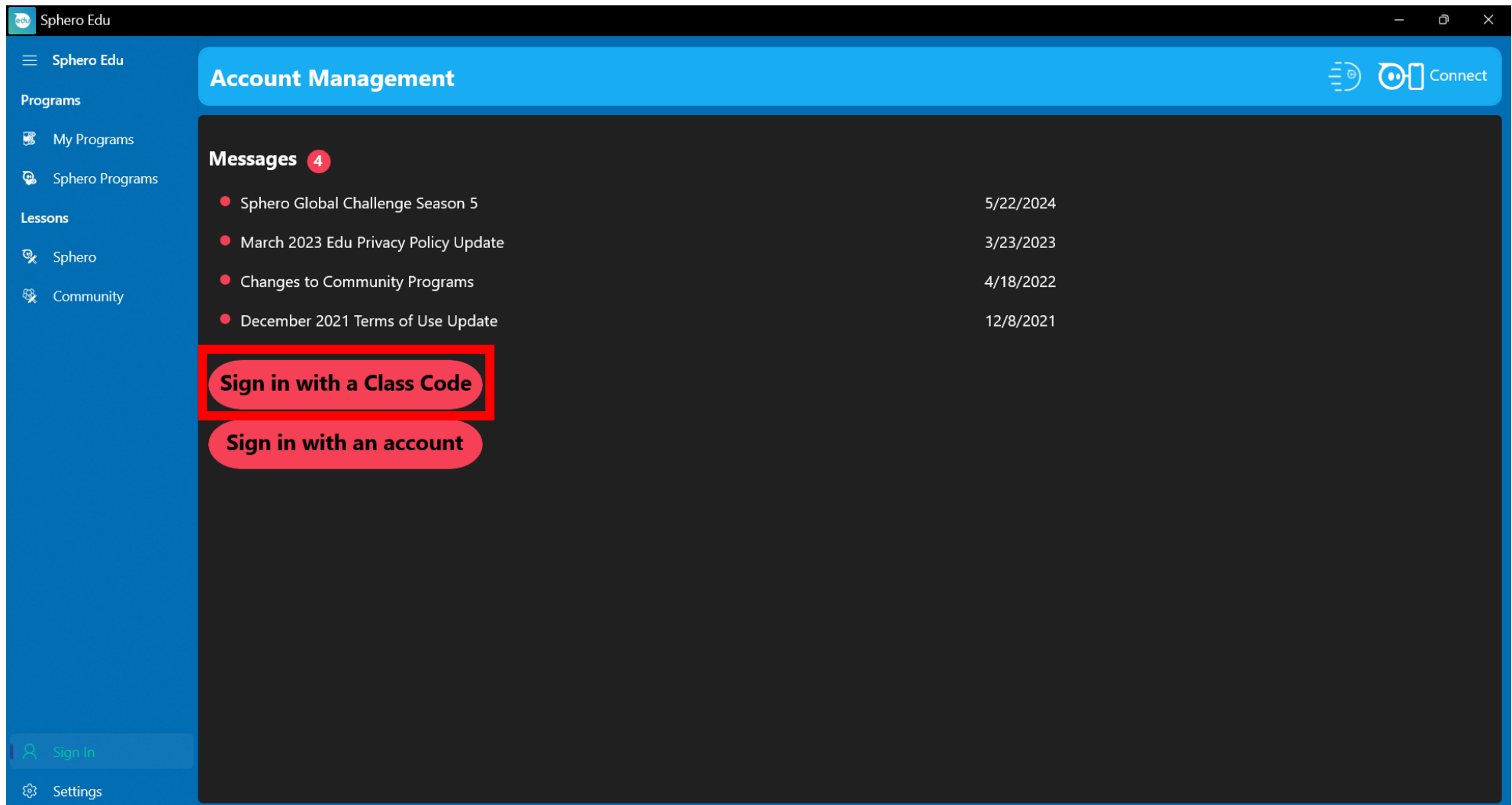
1) This section will cover how to enter a Sphero class and create a new program. Open SpheroEDU.



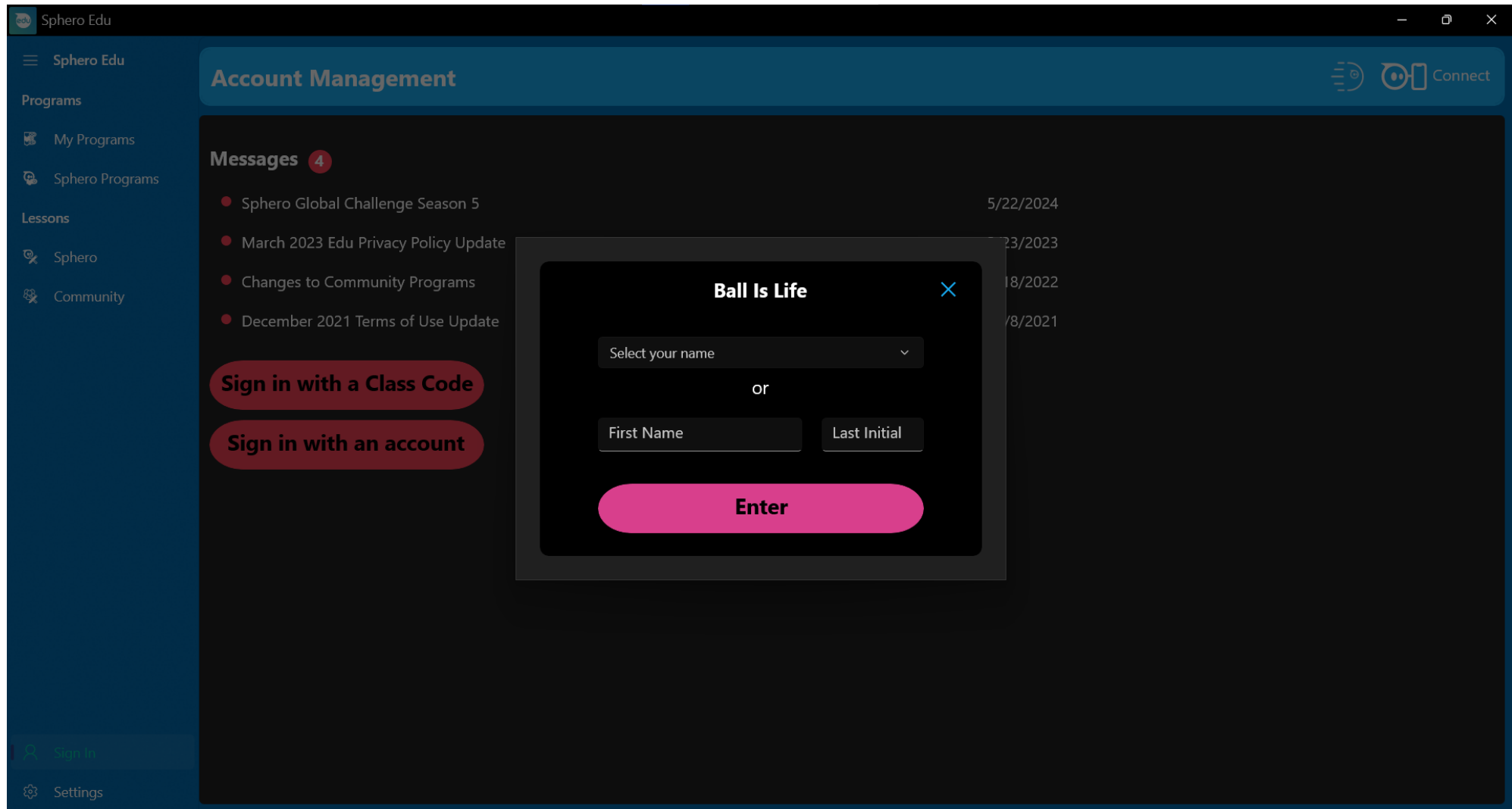
2) Click Sign In



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, Community), Sign In, and Settings. 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' (3/23/2023), 'Changes to Community Programs' (1/18/2022), and 'December 2021 Terms of Use Update' (12/8/2021). Two buttons are visible: 'Sign in with a Class Code' and 'Sign in with an account'. A modal window titled 'Ball Is Life' is centered on the screen. It contains a dropdown menu labeled 'Select your name', the word 'or', two input fields for 'First Name' and 'Last Initial', and a large pink 'Enter' button.

Sphero Edu

Account Management

Messages 4

- Sphero Global Challenge Season 5 5/22/2024
- March 2023 Edu Privacy Policy Update 3/23/2023
- Changes to Community Programs 1/18/2022
- December 2021 Terms of Use Update 12/8/2021

Sign in with a Class Code

Sign in with an account

Ball Is Life

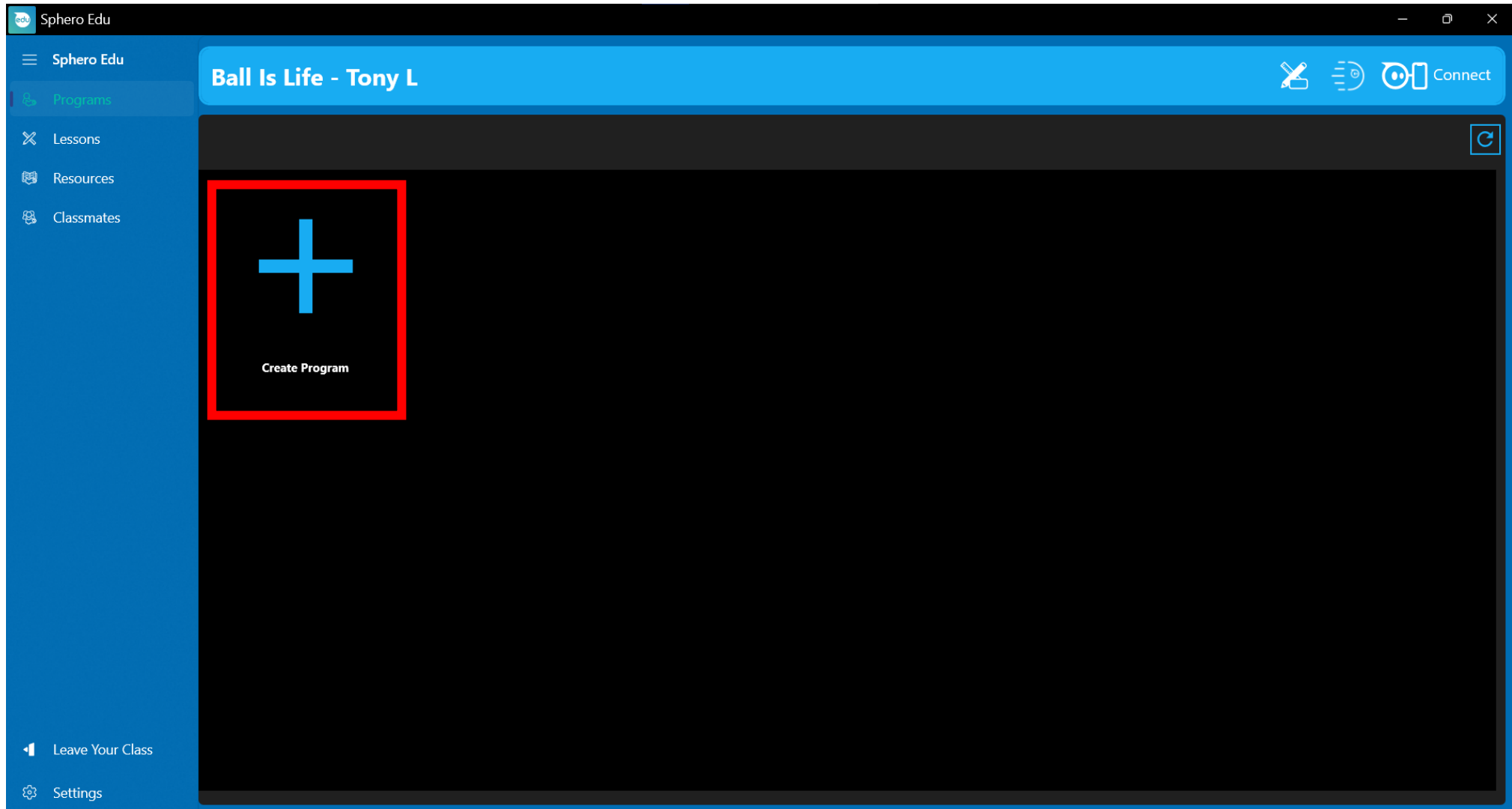
Select your name

or

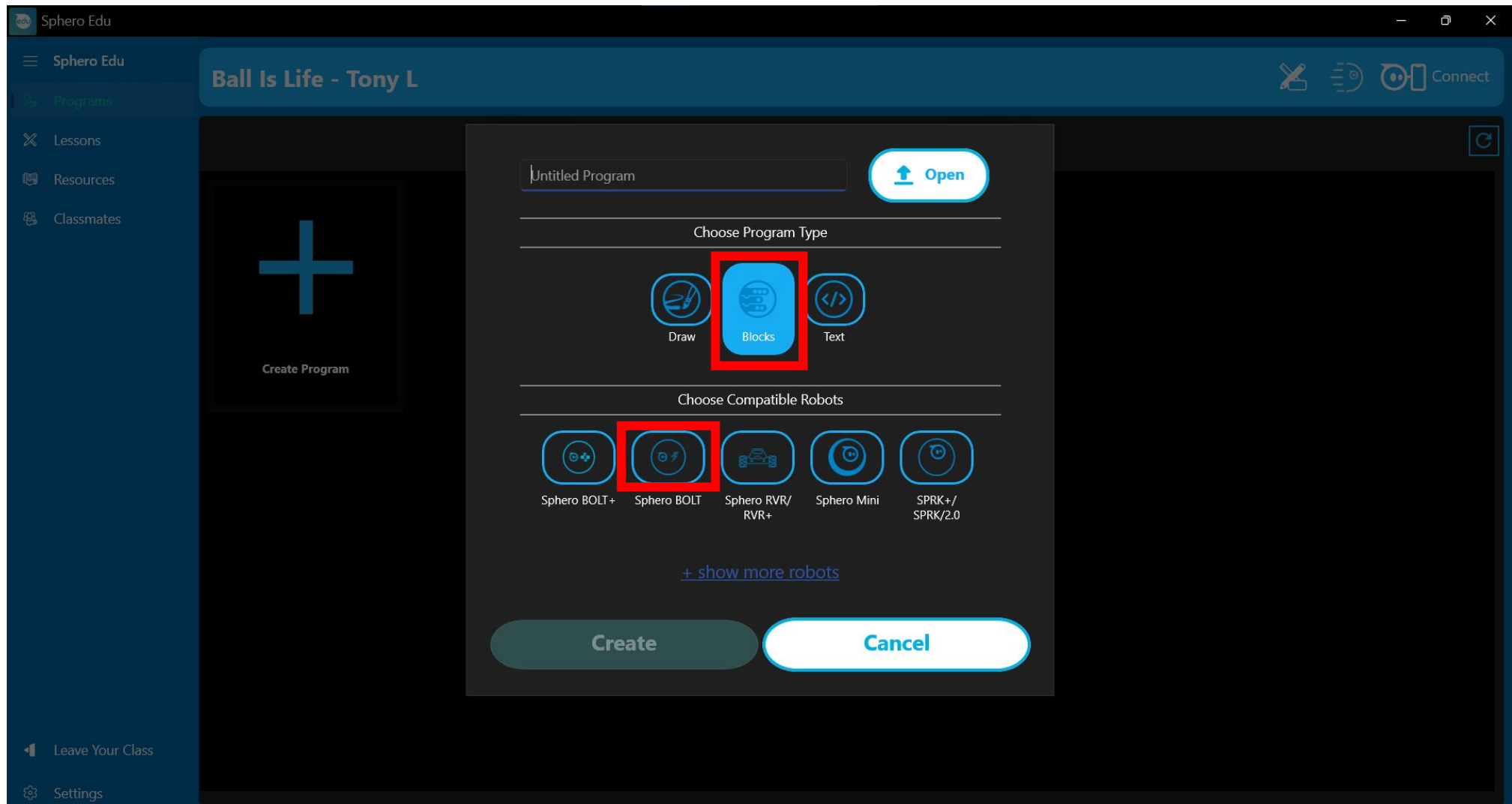
First Name Last Initial

Enter

5) Click Create Program



6) Select Blocks and Sphero Bolt and then click Create



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

8

- 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.

The screenshot displays the Sphero Edu web interface. At the top, there is a blue header bar with a 'Start' button. Below this is a large white workspace for building code. On the left side, there is a vertical toolbar with various icons. At the bottom, there is a horizontal toolbar with tabs for different categories: Movements, Lights, Sounds, Controls, Operators, Comparators, Sensors, Communications, Events, Variables, and Functions. The 'Movements' tab is currently selected. In the workspace, a code block is being added to the 'on start program' event. The code block is a light blue 'roll' block with the following settings: 'roll', '0°', 'at', '100', 'speed for', and '5s'. A red rectangle highlights the 'roll' block and its settings. The 'on start program' event is also highlighted with a red rectangle.

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

The screenshot displays the Sphero Edu web interface. At the top, a blue header bar contains a 'Start' button and icons for AIM, settings, and a mobile app. The main workspace shows a code block with three steps: 'on start program', 'roll 0° at 100 speed for 5s', and 'delay for 3s'. A red rectangle highlights this code block. The bottom panel features a tabbed interface with 'Controls' selected. In the 'Controls' palette, the 'delay for 0s' block is highlighted with a red rectangle. Other tabs include Movements, Lights, Sounds, Operators, Comparators, Sensors, Communications, Events, Variables, and Functions.

- 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 programming environment. At the top, a blue bar contains a 'Start' button and icons for AIM, a menu, a chat bubble, and a settings icon. The main workspace shows a script starting with an 'on start program' block, followed by a sequence of blocks: a 'roll' block (0° at 100 speed for 5s), a 'delay for' block (3s), another 'roll' block (270° at 100 speed for 5s), and a final 'delay for' block (3s). The bottom of the interface features a palette of 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', and 'fade from'.

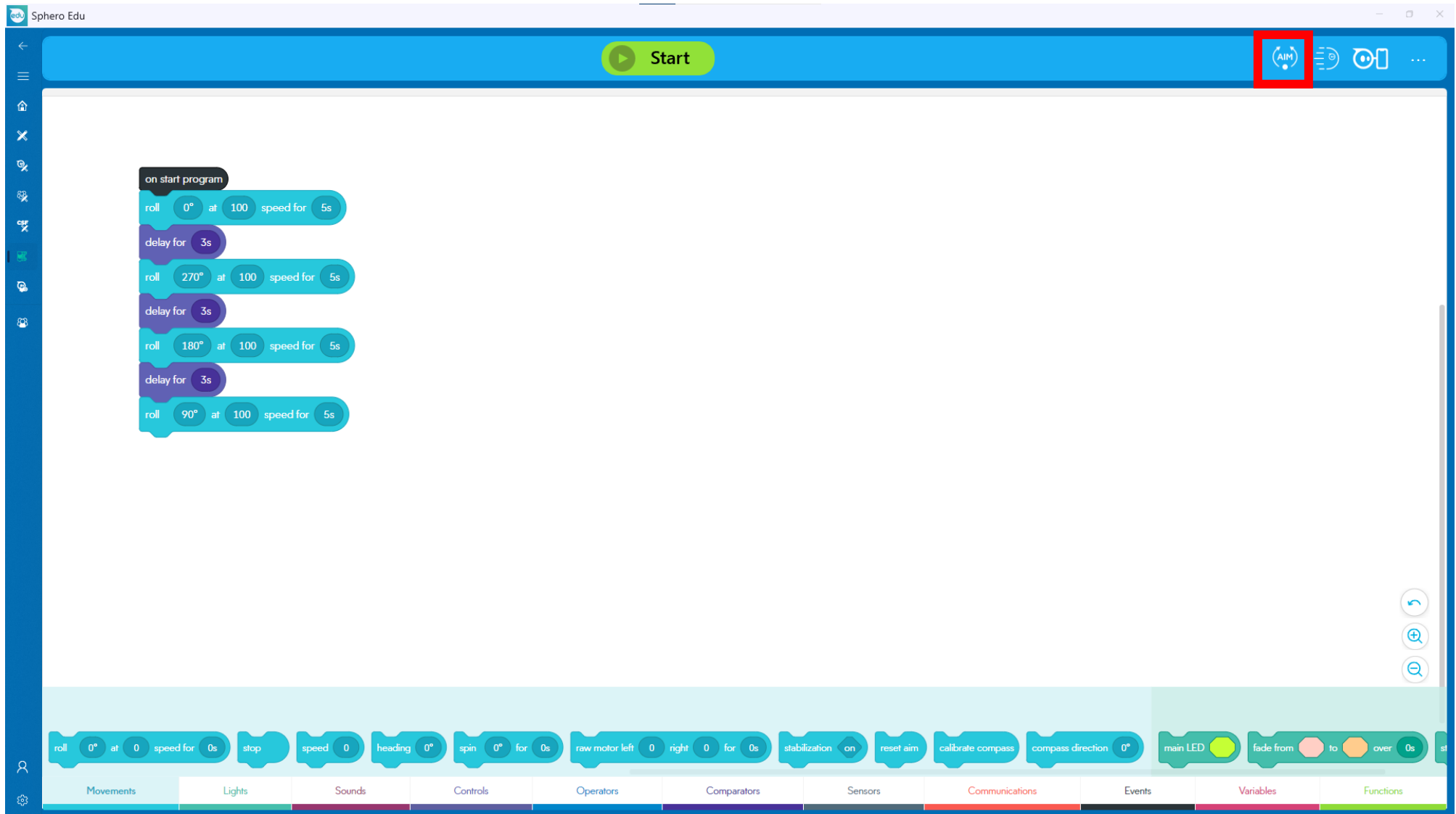
- 4) Grab another movement block and set the roll to 180 degrees. Keep the speed and time the same as the previous movement block.

The screenshot displays the Sphero Edu programming environment. At the top, a blue header bar contains a 'Start' button and icons for AIM, a menu, a speech bubble, and a close button. On the left, a vertical toolbar shows various icons for navigation and editing. The main workspace is a light blue area where a sequence of blocks is being built. The sequence starts with an 'on start program' block, 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 finally a '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. The 'Movements' category is currently selected, and its blocks are visible in the toolbar.

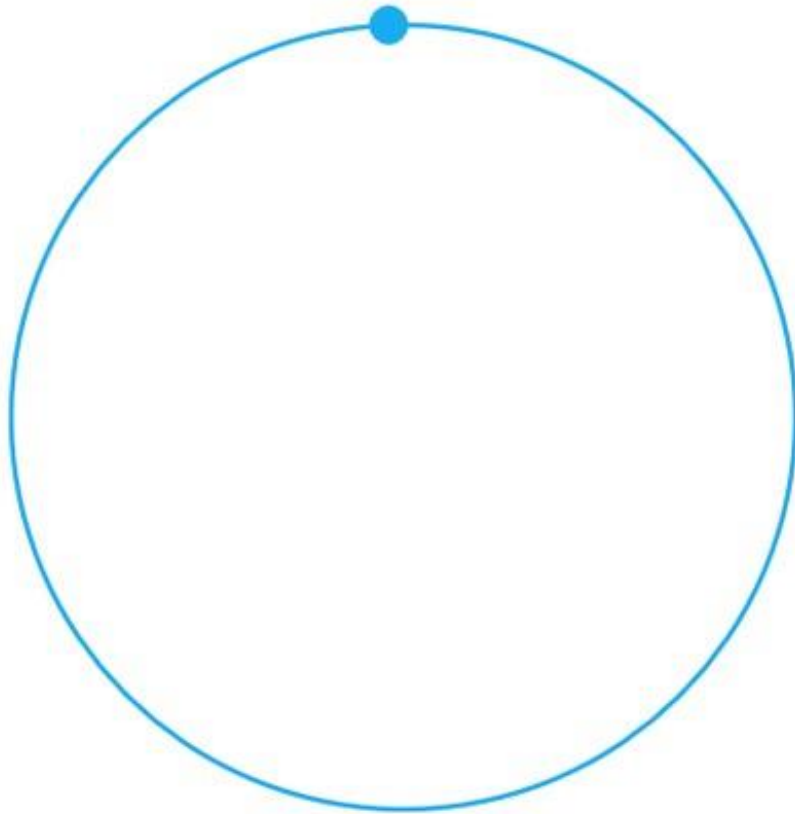
- 5) Grab another movement block and set the roll to 90 degrees. Keep the speed and time the same. A delay block is not needed for the last block.

The screenshot displays the Sphero Edu programming environment. At the top, there is a blue header bar with a 'Start' button. Below the header, the main workspace shows a sequence of blocks for a program. The sequence starts with an 'on start program' block, followed by a 'roll' block set to 0° at 100 speed for 5s. This is followed by a 'delay for' block set to 3s. The sequence continues with a 'roll' block set to 270° at 100 speed for 5s, another 'delay for' block set to 3s, a 'roll' block set to 180° at 100 speed for 5s, and a final 'delay for' block set to 3s. The last block in the sequence is a 'roll' block set to 90° at 100 speed for 5s. The bottom of the interface features a palette of blocks categorized into 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', and 'fade from'.

6) Click on the AIM button to calibrate the Sphero



- 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

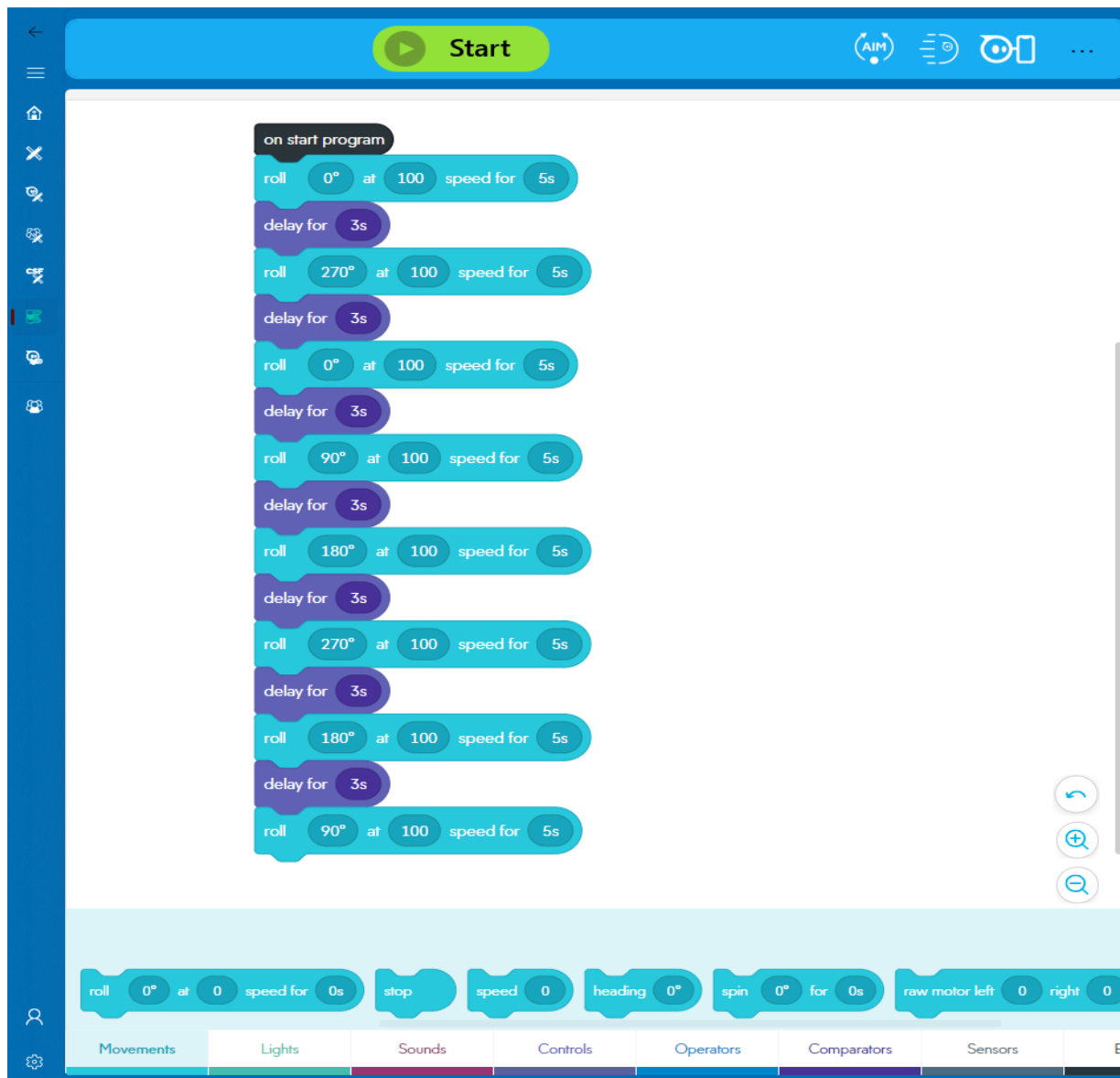
The screenshot shows the Sphero Edu web interface. At the top, there is a blue header bar with a 'Start' button highlighted by a red rectangle. Below the header, the main workspace displays a program with the following blocks:

- 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 of the interface, there is a toolbar with various blocks categorized into:

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

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

