100 Days of School: SAM Space

Recommended Read Aloud: **Fancy Nancy: The 100th Day of School** by Jane O'Connor

It's the 100th Day of School! Celebrate all that students have learned by completing 100 seconds of various activities!

Partner students up, with one partner completing the challenge and the other student starting the stopwatch and keeping count if needed. Then, switch roles!

Input: Key Press
Output: Sound Player
Behaviors: Toggle (Switches), Interval (Time), Counter (Numbers), Compare (Numbers), Number (Numbers)

Note: Integrate math by having students find the difference between their total and their partner's total, find the range of totals for the entire class, create a bar graph to show totals, create a stem and leaf plot to show totals, etc.

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Sample Challenges:
- How many jumping jacks can you complete in 100 seconds?
- How tall of a structure can you build by stacking cups in 100 seconds?
- How many times can you write your name in 100 seconds?
- How many times can you recite the alphabet in 100 seconds?

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Explore even and odd numbers by building a system that flashes a light 100 times and uses color to determine if the number is even or odd.

For younger students, have them explore inputs and outputs by building a system that flashes a light 100 times and then stops.

Sample Code Level 1:

Include a Sound Player to alert students when 100 flashes of light has been reached. The additional Number block shows students the current number being shown, and the light color indicates whether that number is even or odd.
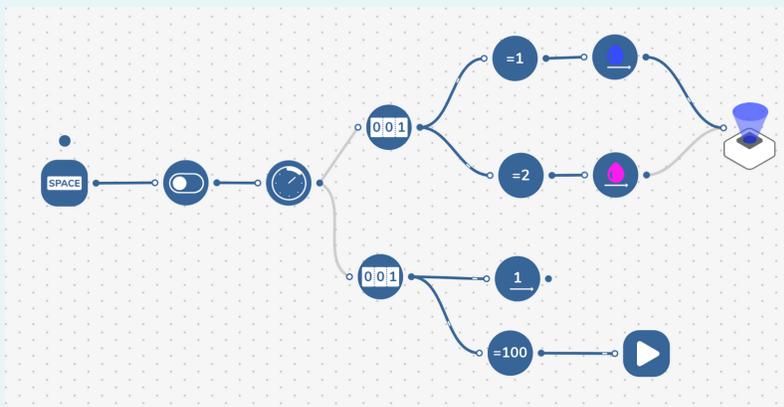
Input: Key Press
Output: RGB LED, Sound Player
Behaviors: Toggle (Switches), Interval (Time), Counter (Numbers), Compare (Numbers), Number (Numbers)
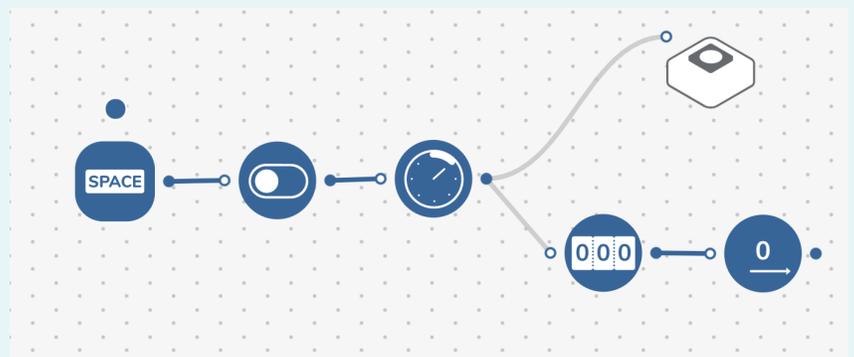
NOTE: Be sure to adjust the range of the first Counter, and set both Counters to 'stop' at the end of their range

Sample Code Level 2:

Input: Key Press
Output: RGB LED
Behaviors: Toggle (Switches), Interval (Time), Counter (Numbers), Number (Numbers)
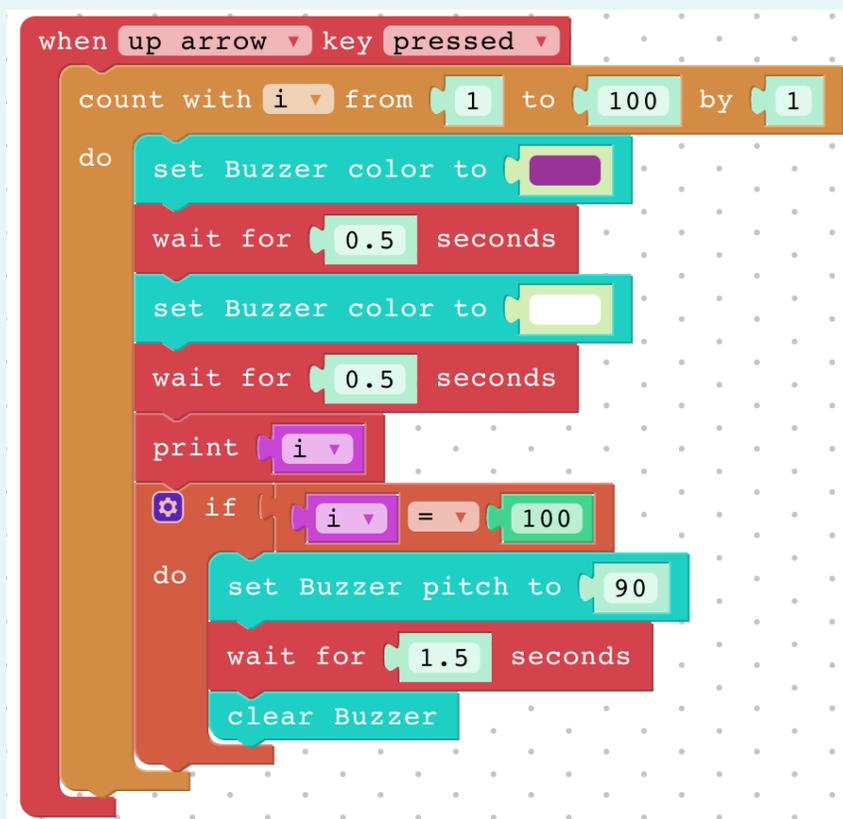
100 Days of School: Blockly Extension

Complete the 100th day challenges from the first activity with the SAM Blockly code below.

This code creates a stopwatch which will sound after 100 seconds. Within each second, the LED on the Buzzer will flash 2 different colors.

Explore variables, loops, and conditional statements within this system!

Sample Code:

Note: Ensure that each color flashes for .5 seconds so that each iteration of the 'count with i' loop lasts for 1 second.

Students can choose the colors they would like the Buzzer to illuminate by using the drop down.

Choosing the print the variable i to the console is optional. This step allows students to see the countdown with each second.