**Finch Robots Snap! Cheat Sheet and Challenges**



When you start coding, make sure that you use one of the following pieces.



Moving the finch: you must use one of the following pieces.

1. A screenshot of a computer screen

   Description automatically generated with low confidenceMoving in a straight line:
2. A screenshot of a computer screen

   Description automatically generated with low confidenceTurning:
3. A screenshot of a computer screen

   Description automatically generated with low confidenceMoving in a curved line:
4. Stopping:A screenshot of a computer screen

   Description automatically generated with low confidence

Detecting an object:

Graphical user interface, website

Description automatically generatedUse the “Finch Distance (cm)” block which detects the distance to a wall. For example, the following code detects a wall and then moves the finch backwards:

Loops: each of the following are loops in Snap.

A picture containing graphical user interface

Description automatically generated

**Challenges:**

!. Try to make the finch move in a square five times.

2. Make the finch spell your name then print a smiley face J on its tail.

3. Make it move in a perfect circle.

4. Make the finch cycle through each color of the rainbow three times.

**Final challenge:**

Navigate the maze in the classroom. It should be able to do it on its own using sensors to detect objects.

Hint: use the “Finch Distance” block and loops

**Further Challenges:**

1. Make the Finch track the distance it took to travel through the maze.
2. Make the Finch count how many right and left turns it made in the maze.
3. Make the Finch stop when it exits the maze.
4. Make the Finch turn red when it takes a right turn or green when it takes a left turn.
5. Make the Finch print the distance and number of turns it made at the end of the maze.
6. More challenges can be found at <https://www.birdbraintechnologies.com/finch/activities/>