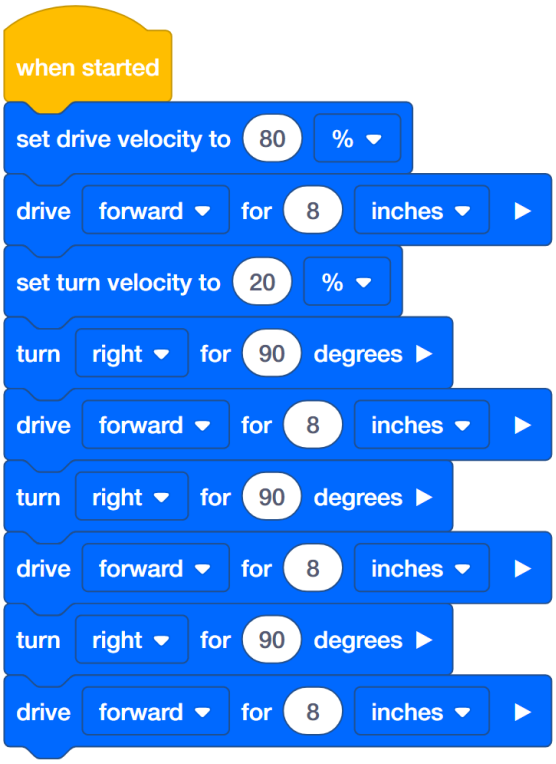
An example solution to Protect the Castle!:



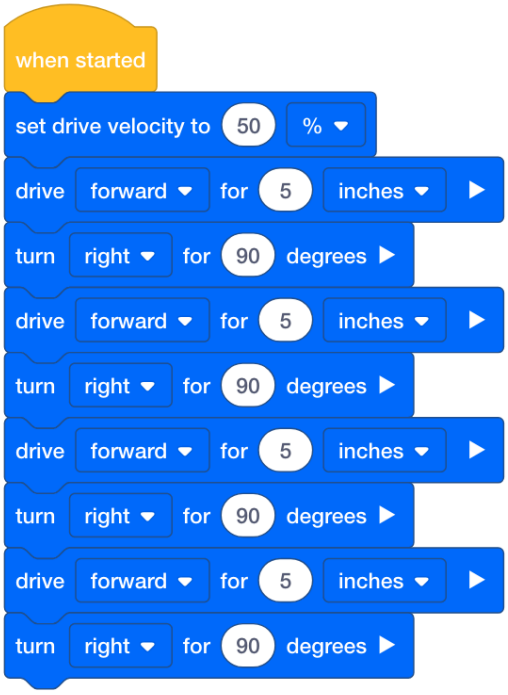
Students were challenged to have the Autopilot move in a square. They were told to have the robot drive quickly along the sides and turn slowly at the corners. Again, the definitions of quickly and slowly were not provided and so, they could be any velocities that are comparably faster or slower than each other. Any project that does all of the following is correct:

- Sets the velocity for driving higher than the velocity for turning.
- Drives the robot quickly forward at least four times.
- Turns the robot slowly for 90 degrees at least three times.
- Students might have additional blocks to set the velocity each time the robot drives or turns. This is a teachable moment when you can point out that setting the velocity for driving or turning can be done once unless they want to change the velocity.

Note: Velocity settings close to 100% are unnecessary and not recommended.

Bonus 1:
Bonus Challenge 1 requires the addition of at least four [set Touch LED color] blocks positioned in the stack before each [drive for] block.

Bonus 2:
Bonus Challenge 2 requires calculating what the each side length would be if the perimeter of the square is 20 inches. Perimeter is calculated by adding the lengths of all of the sides of the square. Since all four sides of a square are the same length, each side would be 5 inches.



Bonus 3:

Bonus Challenge 3 requires calculating the length and width of a square castle that has an area of 49 inches. Since all four sides of a square are the same length, the length and width are the same. Area is calculated by multiplying the length by the width. Thus, each side would be 7 inches.