

## Loops

By Sanjay and Arvind Seshan



# BEGINNER PROGRAMMING LESSONS

# LESSON OBJECTIVES

1. Learn how to repeat an action
2. Learn how to use Loop Blocks

# REPEATING AN ACTION

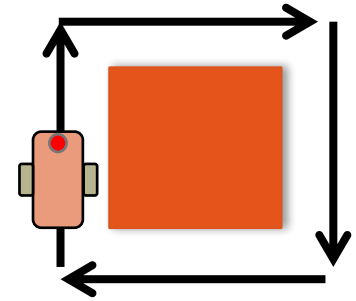
Let's say we want the robot to repeat an action over and over again.

Would you just copy the block multiple times?

Sure, that could work!

What if I want to repeat that block forever?

Now what?

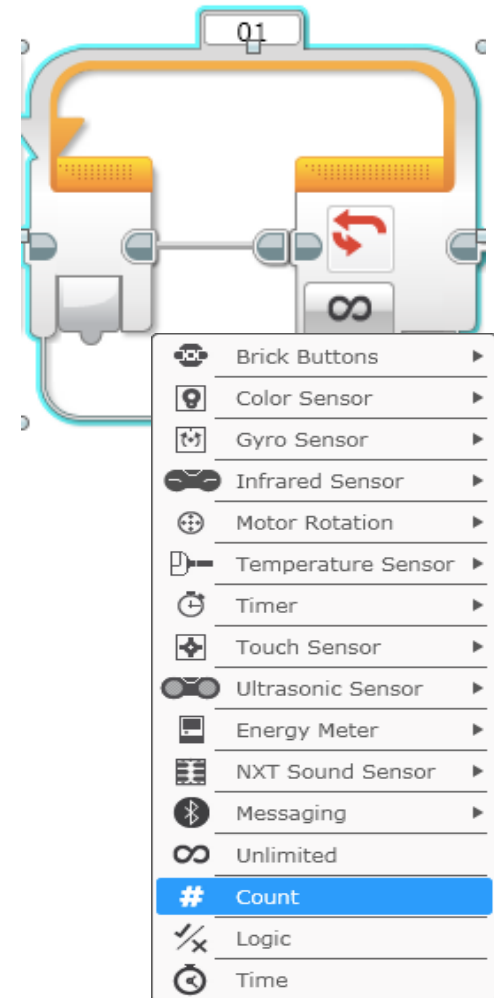


# LOOPS



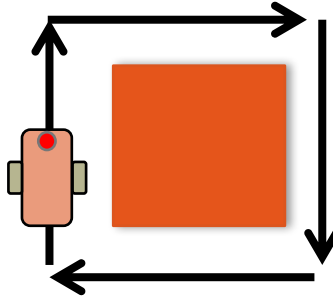
**Loops make repeating a task multiple times easy**

**The added benefit is that a loop can end whenever you want (a specific number of times, run forever, a specific condition, etc)**

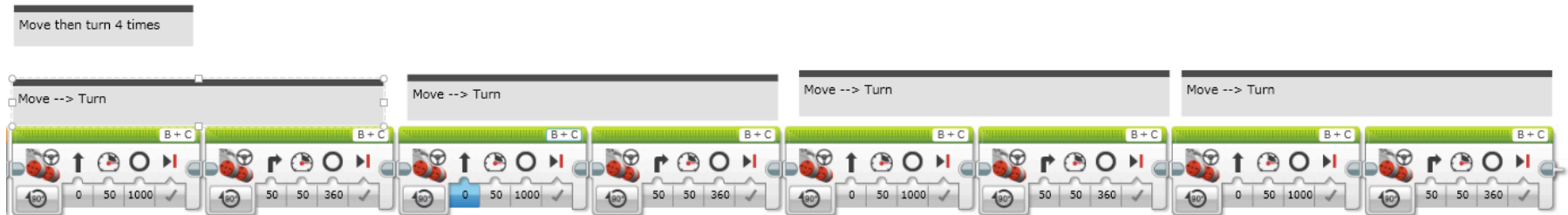


# LOOP CHALLENGE

**Challenge: Write a program to go around a box once.**



**The simple way is to code it like this:**



**Use a loop to improve the code**

# LOOP CHALLENGE SOLUTION

01

Move --> Turn

Run 4 times

B + C

Steering: 0

90° 0 50 1000 ✓

90° 50 50 360 ✓

# 4

- Brick Buttons ▶
- Color Sensor ▶
- Gyro Sensor ▶
- Infrared Sensor ▶
- Motor Rotation ▶
- Temperature Sensor ▶
- Timer ▶
- Touch Sensor ▶
- Ultrasonic Sensor ▶
- Energy Meter ▶
- NXT Sound Sensor ▶
- Messaging ▶
- Unlimited
- # Count**
- Logic
- Time

# CREDITS

- This tutorial was created by Sanjay Seshan and Arvind Seshan
- More lessons are available at [www.ev3lessons.com](http://www.ev3lessons.com)



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