Name_____

U3-1.3 Let's explore forever loops

Loops let us repeat steps in a program without having to write the same code over and over. When you want a program to do the same thing many times, using a loop is easier than having to write each command again and again. This makes our code more efficient because you can tell the computer to do the same thing using much less code.

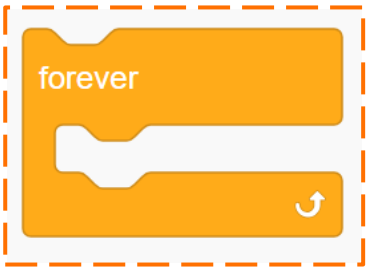
In many programs with repeating commands, you know how many times you want the program to loop. If you want to get your robot to drive in a square, for example, you know you need to have Edison drive and turn four times. In that program, you can use a definite loop which repeats four times.

To use a definite loop, you need to know how many times the loop needs to repeat. What if you don't know that? Or, what if you want to make a program that loops forever?

Don't forget

There are different types of loops. A definite loop is a type of loop which will repeat for a set number of times. The repeat block in EdScratch is an example of a definite loop.

To have something repeat forever in EdScratch, you need to use a special loop block in the Control category in the block pallet called the forever block:



The forever block is an indefinite loop.

Jargon buster

An **indefinite loop** is a type of loop which will repeat for an undefined number of times. The forever block in EdScratch is an example of an indefinite loop. This loop block tells Edison to keep repeating the code blocks inside this loop forever.

You can think of the forever block in EdScratch as working the same way as the repeat block does, but with the input parameter for the number of loops set to infinity!

The shape of a block in EdScratch can give you some clues about how you use it in the language. Look at the shape of the forever block. Just like all the other loop blocks in EdScratch, the forever block wraps around other blocks. All the blocks that sit inside the loop block will be repeated. What else do you notice about the shape of this block?

Name_____

1. If you write a program using a forever block, do you think you will you be able to add commands for Edison to do after the loop? Why or why not?

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Try it out!

Let's turn Edison into an egg timer! Use the forever block to write a program so that Edison will wait a certain number of seconds and then sound an alarm forever.

Hint!

You can always stop a program by pushing the stop (square) button on your Edison robot.

Think about the sequence of things that need to happen for the egg timer program to work. What needs to be inside the loop? What needs to be outside of the loop? Download and test your program with your robot.

2. What does your program look like? Write your program below. Be sure to include the input parameters you used.