U3-2.2 Let's explore comments in coding

Part of learning how to code is learning to speak another language: a computer programming language! The more coding you do in a programming language, the easier it is to understand programs written in that language. You can look at a program, follow each command in order, and start to figure out what the program will do when you run it.

There is also a tool to help make it easier for us to read programs called comments.

Jargon buster

In programming, **comments** are notes that the programmer adds to help keep track of things. **Comments are messages to document what's happening in the program and clarify** things so that people can understand the program.

What comments look like depends on the programming language. Sometimes comments can look a bit like code, but comments are not actually code. When a computer runs a program that has comments in it, the computer will ignore the comments. Comments are just for people!

In EdScratch, you can add a comment to your program by using the special block in the Comments category. Here is what the comment block looks like:
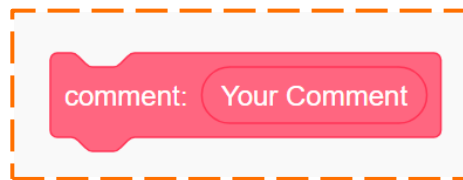
The comment block looks similar to other blocks in EdScratch, but it works a bit differently. See **where it says 'Your Comment' in the block? That's where y**ou can write in your note. Remember, this block **isn't code** for Edison. When Edison sees a comment block in a program, it simply skips the block and moves on to the next command. You can think of the message you write in a comment **block as that block's input** parameter, but instead of being information for Edison, it is a note for a person.

Why is that?

Because comments are just written for **people, you don't have to worry about** the computer understanding what you mean. That**'s why comments don't need** to be written in the syntax of the programming language.

How do you use comments?

In many ways, how you use comments in your program is up to you. Comments do not need to follow syntax**, so there isn't a specific way you must** write your comments. You can phrase things in your comments however you think makes the most sense. You can also add comments to your code wherever you think you need a note to help explain what comes next.

Adding comments to a program makes it easier for other people to read your program, but the person that is most likely to read your comments is you in the future! This is because comments are a helpful tool for debugging your programs.

By adding a comment, you can organise your thinking and keep track of what it is you are trying to do. That way, if something in your program **doesn't work the way you intended, it is easier to** go back and see where the issue might be.
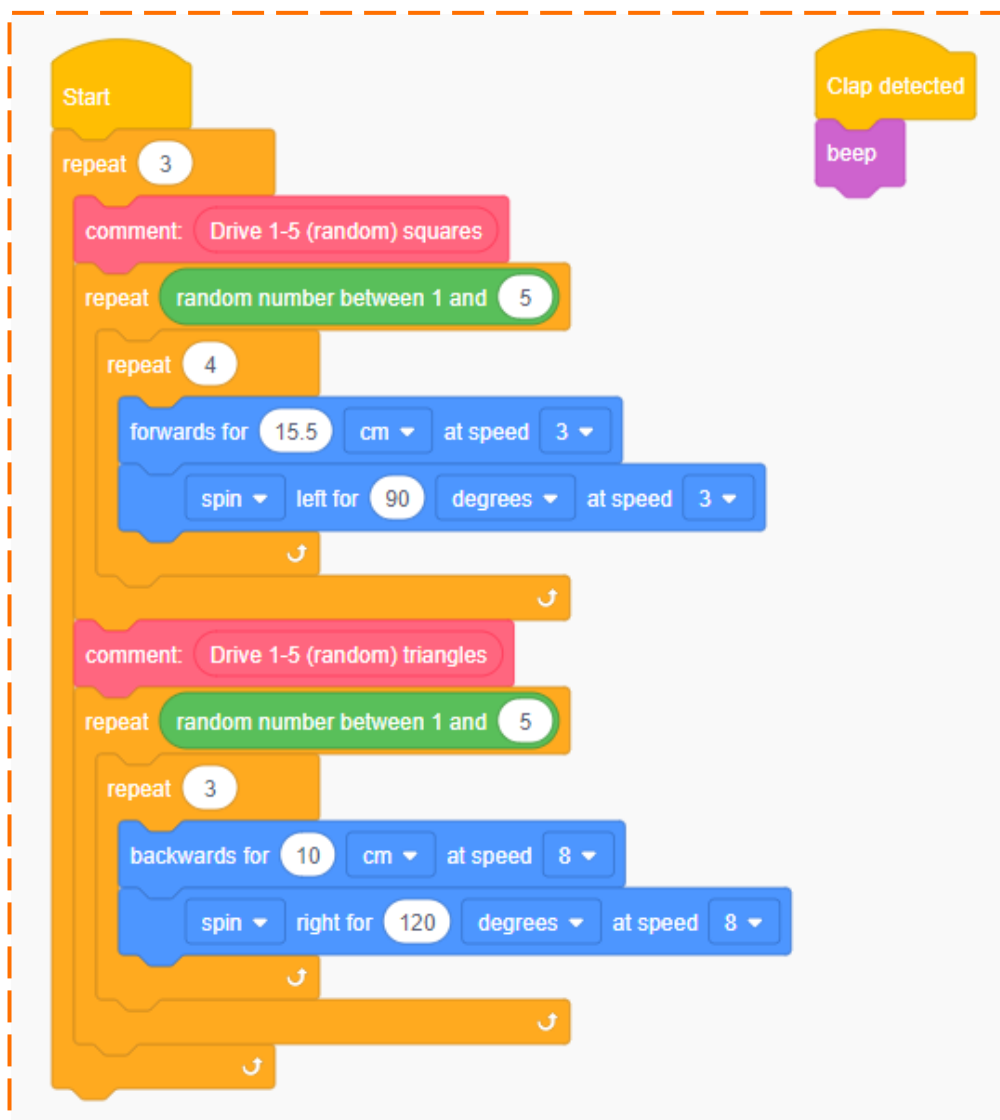
Don't forget

Finding and fixing problems in a computer program is called debugging.

Try it out!
Look at this program:

The programmer has added some comments to the code to help make the program easier to read. Use this picture to answer the following questions.

1. What do you think Edison will do if you program the robot with the code in the picture?

Sample student answer: I think that Edison will drive between 1 and 5 squares going forwards slowly, then drive between 1 and 5 triangles going backwards quickly. Edison will then repeat that whole set of actions 2 more times (a total of 3 times). If I clap at any time while the program is running, Edison will beep.

2. Do the comments make it easier for you to understand what the programmer wants the program to do? Why or why not?
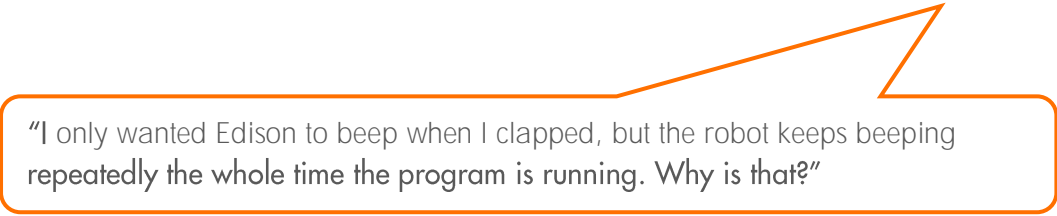
Sample student answer: I think that Edison will drive between 1 and 5 squares going forwards slowly, then drive between 1 and 5 triangles going backwards quickly. Edison will then repeat that whole set of actions 2 more times (a total of 3 times). If I clap at any time while the program is running, Edison will beep.

Now try programming your Edison with the program in the picture.

3. Did the program work the way you expected? Describe anything that happened that you didn't expect.

Sample student answer: The program mostly worked the way I expected but the robot beeped the whole time, and I didn't think that it would because I never even clapped.

_____

_____

When the programmer ran this program, something unexpected happened:

"I only wanted Edison to beep when I clapped, but the robot keeps beeping repeatedly the whole time the program is running. Why is that?"

4. Why is Edison beeping? *Hint:* Is there a clue in the EdScratch environment?

Sample student answer: The bug box has a warning that explains this: 'Driving the motors creates noise which may cause the 'clap' event to trigger. This may cause the 'clap event' blocks to trigger repeatedly while Edison is driving.'