Instructions

When you are given an instruction – from you teacher at school or from a family member at home, you're responding to an algorithm. An algorithm is a way to describe how we complete an instruction. You've used a lot of algorithms today! What is your routine to get up in the morning? What are the steps you followed to make your breakfast? How did you get to school?

Algorithms

Algorithms are the instructions we give a digital system to follow. A computer needs to be told exactly what to do. Without each step properly defined, digital systems may not complete the required task. Can you imagine what a robot would do if it was given the instruction of 'Clean your room!' It might start washing EVERYTHING like washing your bed with everything still on it, washing the carpet, it could throw EVERYTHING out because then it's clean!

Branching means the algorithms have more than one option and the direction of the algorithms (the instructions) will have to change depending on the direction. You have the choice of two prizes and they are in two different boxes. If you pick Box 1 you'll get a different prize than if you picked Box 2. When you are writing the instructions, you need to make sure you have different options available. If both boxes contain the same prize, what was the point in choosing?

Ever read a choose your own adventure book? You decide which path the character takes. Have you played a video game and controlled the character? That's user input because, you make the decisions on the tasks that will be completed.

Next time you are using a digital system (specially playing a game) look at how you are controlling the which algorithms are being used.

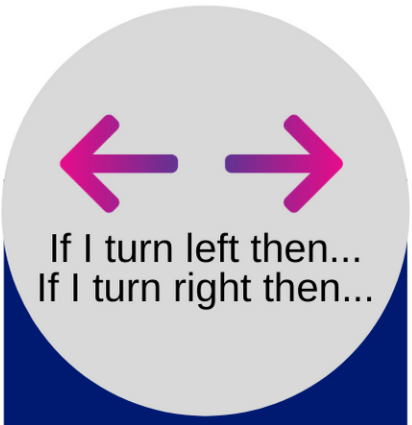
Video Resources

Watch the video to understand more about if statements (branching).

Video Source: Code.org

ALGORITHMS

Explicit instructions to complete a task



BRANCHING

Branching shows multiple options and outcome for one command

USER INPUT

User input controls the data and guides the direction of the algorithm.

Use branching as a way to present algorithms based on a set of options that will be influenced by user input.