Unit 1.1: We are treasure hunters

5 words to remember

algorithm: a set of instructions that are followed to complete a task; in programming, an algorithm is a set of instructions that tells a computer what to do

Blue-Bot®: a programmable toy robot that can be used to teach young children about computer programming

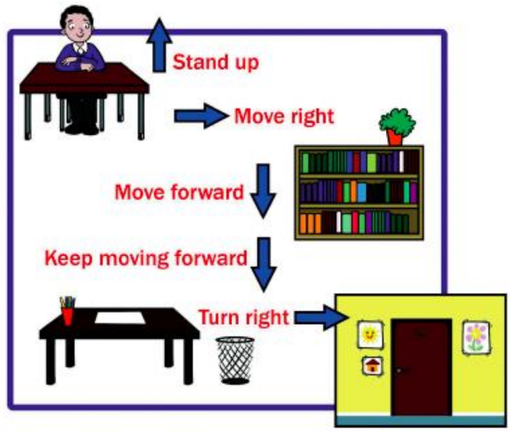
command: a single instruction that tells the computer what to do – commands can include moving forward, turning left or right and stopping

debugging: a process of finding and fixing errors, or bugs, in a program

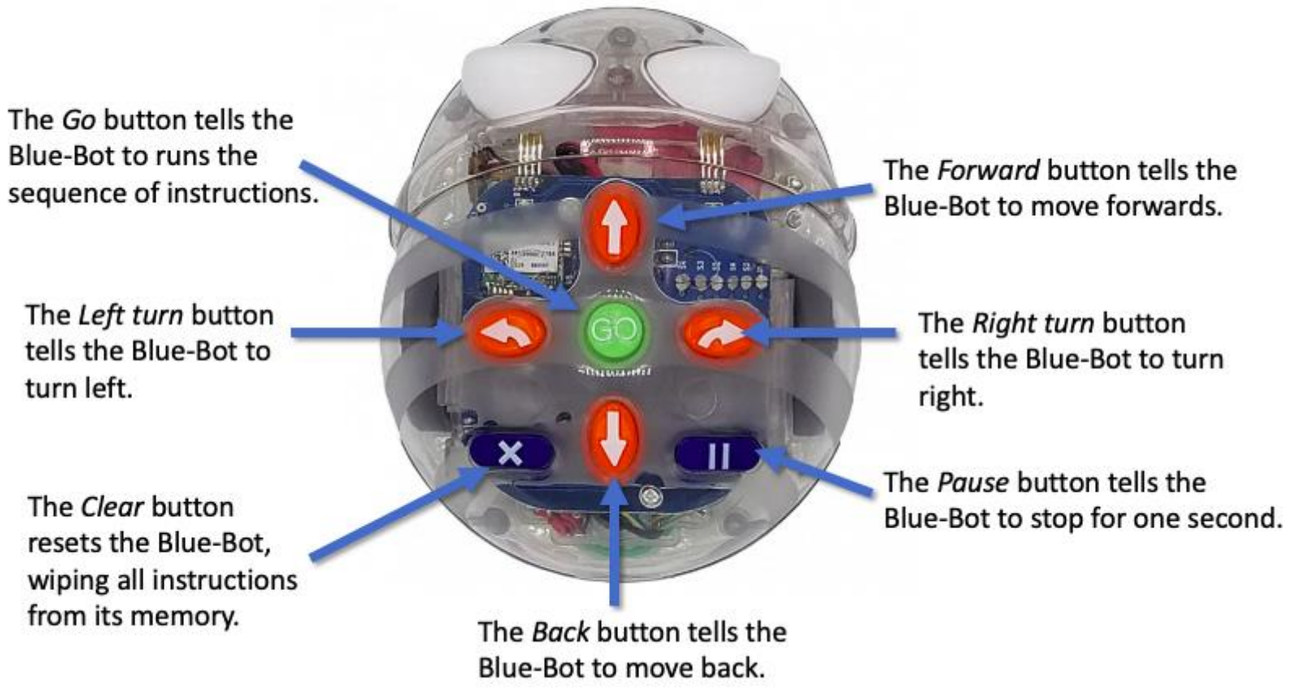
sequence: when two or more commands are put in a specific order to achieve a goal; in programming, order and sequence are important

Knowledge check: Algorithms

Algorithms are all around us and are used every day. What step-by-step instructions (algorithm) would you need to follow to get from where you are sitting to the door of your classroom?



Knowledge check: Features of a Blue-Bot®



Key takeaways

- Programming a **Blue-Bot®** involves writing a **sequence** of **commands** that the Blue-Bot® will follow.
- The sequence of commands must be in a specific order to achieve the expected outcome.
- Before programming the Blue-Bot®, it is important to plan out the sequence of commands using an algorithm.
- **Debugging** is an important part of programming, where errors in a program are identified and fixed.
- Using Blue-Bots® can help young children develop skills such as problem-solving, critical-thinking and logical-reasoning.

Knowledge check: Programming a Blue-Bot®

To program a Blue-Bot®:

1. Start by planning the sequence of commands using an algorithm. This can be done on paper or using visual aids.
2. Write down the sequence of commands that the Blue-Bot® will follow. Commands can include moving forward, turning left or right and stopping.
3. Enter the commands into the Blue-Bot® using the control buttons or a computer.
4. Test the program to check whether the Blue-Bot® moves as expected. If not, use debugging techniques to identify and fix errors in the program.
5. Once the program is working correctly, try modifying the sequence of commands to achieve a different outcome.