YEAR 2 COMPUTING

Robot algorithms

How can we program a floor robot to follow a route?

1. Plan the route

Mark the start, the way the robot faces and the finish.

2. Predict and program

Trace the steps. Then enter the commands in order.

3. Test and debug

Run the program. If a step is wrong, fix it and test again.

What we need to know

Give clear instructions
Say exactly what to do. “Move forward one square” tells the robot how far to go.

Order matters
Moving forward then turning can take the robot to a different square from turning then moving forward.

Predict before you press Go
Follow each command on the mat to work out where the robot will finish. A turn changes where the robot faces.

Design a mat and a route
Make a mat with squares the robot can travel across. Plan a route from the start to the finish and try it out.

Break a long route into parts
Plan and test one part at a time. Join the parts together and check the whole program.

Key words

algorithm Clear steps in order to do a task.

sequence The order of the steps.

command One instruction.

program Instructions a device can follow.

predict Use the steps to work out what will happen.

debug Find and fix mistakes in a program.

Can you remember?

1. What is an algorithm?
2. Why does the order of steps matter?
3. How can you predict where it will stop?
4. What does it mean to debug?

Adapted from a unit guide created by Raspberry Pi Foundation and updated by STEM Learning for the National Centre for Computing Education. OGL v3.