

## ROBOT RUMBA

**To enter a longer sequence of commands. To write sequences for making two robots 'interact' with each other.**

†† Groups of three or six.

⊕ 30 minutes at the computer; 15 minutes demonstration/discussion.

### Previous skills/knowledge needed

The children should be confident in programming a robot.

### Key background information

This activity will enable the children to work together and plan longer sequences of commands so that two robots can be made to interact in a dance-like routine. This offers opportunity for careful group planning, the estimation of distances and turns and using the children's knowledge of the robot's capabilities to choreograph the dance. This activity will help to consolidate their robot programming skills. It is an open task, allowing the children to be creative and inventive.

### Preparation

It would be beneficial to discuss and demonstrate with the children some simple dance movements such as approach, back, approach, turn round each other.

### Vocabulary

Routine, movements, sequence, pattern.

### Resources needed

Two robots (although a limited amount could be done with just one).

### What to do

Tell the children that they are going to create a sequence to make two robots 'dance' together. Discuss with them how the two robots may perform a dance routine, suggesting particular moves, but emphasising that they must keep their sequences short. The idea is not to let the robots actually touch, but to make their moves as intricate

as possible. If there is only one robot available, it would be better to have a static object for the robot to dance around. The object will also act as a marker around which the sequences can focus.

Allow three children at a time to work with each robot and to devise their sequences together:

- ▲ one child entering the commands;
- ▲ a second child writing down the sequences;
- ▲ the third physically pacing out the routes.

Set a time limit of about 20 minutes for this, and then draw the other children around to judge the final dance

sequence. Before they make the judgement, discuss with them the criteria for judging. These could include how well the pair of robots move together, or how complicated the sequence is.

If you are fortunate to have access to more than two robots, then an even more complex dance routine can be programmed, carried out and evaluated.

### Suggestion(s) for extension

The more confident children may like to consider writing sequences for 'synchronised' robot dance routines and placing some sequences into procedures.

### Suggestion(s) for support

Make sure the less confident children are grouped with a helpful friend. Encourage them to start with relatively simple sequences.



### Assessment opportunities

This activity will enable you to assess how well the children create, test and modify their sequences in order to produce successful robot dance routines. Look out for a clear understanding of the robot commands, and an ability to predict what the robot should do once a particular sequence has been entered.

### Display ideas

The display of this activity is in the watching. You could have a robot dance show where groups enter their recorded sequences for display in turn. Judges could assign scores to the performances.