



Experiment 1

1. Create a continuous line on a sheet of paper using black tape. Make sure there are no gaps.
2. Use the robot without the switch controller.
3. Place your robot in centre of area and power-on. Select mode "**b0**". Switch sequence is "**A_2D_2A**".
4. Now press **SW-A** to start. If all is OK the robot will bump its way around the area set by the tape. It will stop after 2 minutes or if you press and hold **SW-A** or **SW-C** for a few seconds.
5. Insert felt-tip pen and press **SW-A** again. What kind of pattern has the robot drawn?

Experiment 2

1. Now experiment with the POT settings
POT-1 :: Sets the amount of reverse when the robot detects the black tape
POT-2 :: Sets the amount of spin after the robot has reversed
POT-3 :: Sets the speed difference between the two wheels. A greater difference means that it moves more in a tighter curve.
Remember to press **SW-B** to get the robot to read the POT settings
2. Swap pens with another group to get a multi-coloured picture.

Experiment 3 - MOUSE mode

1. Turn paper over and make a new shape for experiment 3.
2. Place your robot in centre of area and power-on. Select mode "**b1**". Switch sequence is "**A_2D_A_D_A**"
3. Now press **SW-A** to start. If all is OK the robot will bump its way around the area set by the tape. It will stop after 2 minutes or if you press and hold **SW-A** or **SW-C** for a few seconds.
4. How is this different from bump mode in experiment 1?
5. IMPORTANT : The POTs have no effect in this mode "**b1**".

Experiment 4

1. Design an experiment to see if you can use other black materials in place of the black tape. Try
Black felt-tip pen, black biro, black photocopier ink, black poster paint, others????
(POSTER PAINT MUST BE DRY BEFORE RUNNING THE ROBOT)
2. Discuss the results with your teacher.