**Step-by-Step**

**Activity 2 Part 1**

**Create a block based program to utilise the sensors to stop MiRo falling off the table:**

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| **Step 1** - * Add ‘program start’ from ‘Setup’
 |  |
| **Step 2** - * Add ‘wait for clap’ from ‘Control’
* Connect to ‘Program Start’
 |  |
| **Step 3** * Add ‘Periodic Control do’ block from ‘Setup’.
* Connect to ‘wait for clap’
 |  |
| **Step 4** * Add ‘if do’ block from ‘Logic’.
* Add ‘( ) and ( )’ block from ‘Logic’..
* Connect together inside the ‘periodic control loop’ block.
* Change ‘and’ to ‘or’ in the dropdown menu.
 |  |
| **Step 5*** Add 2 ‘Left Cliff Sensor’ blocks from ‘Sensor’
* Add one to either side of the ‘or’ section.
* Change one to ‘right’
 |  |
| **Step 6*** Add ‘start Moving forwards slow’ from ‘Simple Motion’
* Connect into the ‘do’ section
* Change to ‘Backwards’ and ‘Fastest’
 |  |
| **Step 7*** Add ‘wait for 1 seconds’ block from ‘Control’
* Connect under the ‘start moving backwards’ block.
 | MiRo will now move forwards until the ‘left’ **or** the ‘right’ cliff sensor is activated, then MiRo will go backwards. |
| **Step 8**Click **Robot Play**OR**Simulator Play** |  |
| **Remember**You need to clap to start MiRo moving - if on the simulator click the ‘clap’ icon to simulate a clap. |  |
| **Debug***Why isn’t MiRo moving?* *Can you see what is missing and find and fix the error?* |

**Activity 2 Part 2**

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| **Step 1** - * Flip to Python code by clicking on the ‘Blockly’ button.
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| **Step 2** - * Select and copy the line of code for moving forward
 |  robot.set\_forward\_speed(+0.4) |
| **Step 3** * Flip back to ‘Blockly’ view and add a ‘run code’ block in after the ‘move forward’ block.
 |  |
| **Step 4*** Paste the code into the ‘run code’ block.
* Delete the ‘’move forwards’ block.
 |  |
| **Step 5*** Run your program
* Experiment with the settings and investigate:
	+ Change the speed setting from 0.4 to 0.1
	+ Change the speed to minus the number added i.e. -0.4
	+ Can they add the code block elsewhere and remove the blocks?
	+ Can they edit the settings directly in python view?
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