**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. |  |
| **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? | |