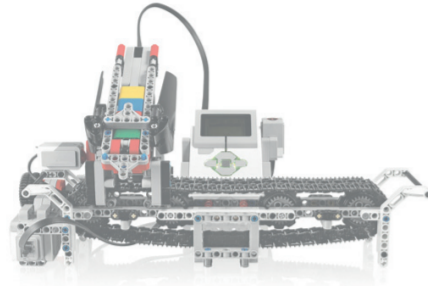


# Program Descriptions

## Color Sorter



### Overview

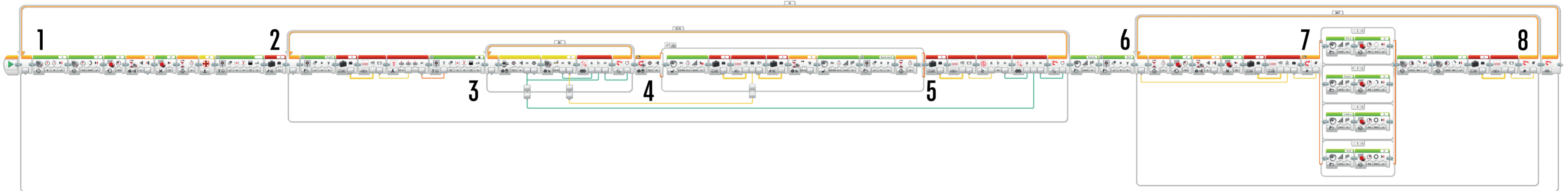
The color sorter program uses the Array functions to store and play back data. By storing the color and place of each color tile, the robot can then sort the objects out mechanically using that data at any time.

**1** This initialization phase sets up the robot. First the tile pushing mechanism, then the track, and lastly the Array A.

**2** Loop SCN sets up the scanning of the color tiles and begins with a display of an arrow pointing to the Color Sensor of the robot. The Array index is displayed to show the user how many tiles have been input.

**5** To end the Loop SCN, one of two conditions can be met. Either the center button is pressed, or a maximum array index of 8 is reached.

**7** The Switch in Number Mode takes the input from the Array. Each number calls out a color with a Sound Block and a location with the Motor Block.



**3** Loop BC acts as a two sensor wait. If the center button is pushed or a color is seen, the loop ends. The color value is wired out of the loop as well as the true value of the Brick Button Sensor Block to be used again in another part of the program.

**4** If the center button was pressed, the program bypasses this switch. Otherwise, the color from the previous Color Sensor Block is stored into the next index of the array. Once the value is stored, a Wait For No Color or Black keeps the loop from repeating too quickly. A sound and display are used to cue the user.

**6** Loop SRT is the playback loop. It begins by always resetting the track to the touch sensor. The array index is read, with the number of times the loop has run. The value of the array is wired to the switch.

**8** To end the program, the A Motor kicks the tile up and resets. Lastly the size of the Array A is checked and this creates the maximum number of loops for Loop SRT.