Lesson 4 Visual Line Following

1. Instructions

1) Use bright and high saturated color for Line

2) Background of Line color must be distinctive from the Line color. Example if Line color is black, do not use it on dark background color like gray or black.

3) Do not Learn White color or Composite color. Ensure lighting condition is bright enough or use Fill Light on WonderCam if required.

4) Depending on actual height of WonderCam to ground, Line width should be suitable in size. Ensure the white arrow on screen is stable.

2. Introduction to Visual Line Following function

Visual Line Following: Able to recognize and identifies multiple color lines and show each line's direction. It provides data such as line position, deviation, direction angle etc to perform smooth visual line following program executions.

3. Visual Line Following Operations

3.1 Enter Function

Push Navigation button on WonderCam to the right to select to Visual Line Following menu.

3.2 Learning new color and recognizing new color

To use Visual Line Following function, program WonderCam to learn about the color first. The method is similar as Color Recognition.

Steps are as follows:

Step 1: When in the Visual Line Following Menu, push Function button to the left once to enter Learning mode. In Learning mode, a red + sign will be shown in center of display with menu showing "Line ID:1", "Line ID:2" etc. This to tag and save various line color.

Step 2: Focus red + on to the targeted line. Ensure target Line to be as straight as possible either in vertical or horizontal direction.

Note: Use bright and high saturated color for Line and background is a clear contrast to the Line color. Ensure lighting condition is bright enough or use Fill Light on WonderCam if required.

Step 3: Adjust the lighting and focus angle to stabilize the arrow line. Push Function button left toward the Camera icon to learn and wait for success message. If fail, turn on the WonderCam light or change the target line color to more contrasting color and do the Learning process again.

Once learning is successful, WonderCam will identifies the color line it had learn and presented as an arrow line on screen.

3.3 Delete Line

To delete any Line ID, navigate to Visual Line Following menu and push Function button to the left to enter Learn function mode. When in Learn mode, use Navigation button to push to the ID number to delete and push down to Bin icon to delete.

4. Visual Line Following Settings

In Visual Line Following menu, push Function button down towards Gear icon to access Settings.

Available for configurations are Color Range and Reset function.

Color Range: For adjusting the tolerance level of identifying the line color. Value too high or low will affect the accuracy of identifying the line. Suitable value is default value 20.

The color range in Settings is only valid for Learning of new Line ID. It will not affect ID already programmed. To change the value for the programmed ID, the ID need to re-learn with the new Color Range setting.

Reset: This will erase all previous recordings and reset to factory default value. Do note to Save settings to effective the reset settings.