

Week 5-Lesson plan

Challenge 1: Write a program to make driving base start from a point and reach the End point

Building Instructions:

A Simple Driving Base

- i) The robot should follow the path and reach the house.
- ii) The robot should follow the path from one house to another.
- iii) The robot should follow the path from start to end.

Challenge 2: Write programs using the Color Sensor to make the Driving Base autonomous.

Building Instructions:

A Simple Driving Base with the Color Sensor

Using the Color Sensor

The Color Sensor can be used in 2 different modes to solve this challenge (i.e., color mode or Reflected Light Intensity mode).

Note: Try all the coding's with different event headers.

- i) The robot starts moving and stops for a color.
- ii) The robot starts moving, stops for a color, plays a sound, waits for a few seconds, and continues. This should be repeated three times.
- iii) Extend the above and use logical OR where you select any four colors, and the robot should do exactly the same as (ii).
- iv) **Don't fall** : Using a forever loop - when the robot reaches the edge of the table, it goes back a few steps, turns either left or right, and moves forward.

v) Follow a line:

Two types:

Type 1: Start with the robot on the black line.

Type 2: The robot searches for the black line and then follows the road.

Student journal: Lab 5

1. Write the Pseudocode for **Drive and stop at a line.**
2. Write the Pseudocode for **Drive and stop at a line and continue driving on the line.**
3. Can you think of any real-world scenarios where the color sensor in LEGO SPIKE Prime could be useful? How might it be used in a practical application?
4. What challenges did you encounter while using the color sensor, and how did you overcome them? Do you have any suggestions for improving the sensor's performance or usability?