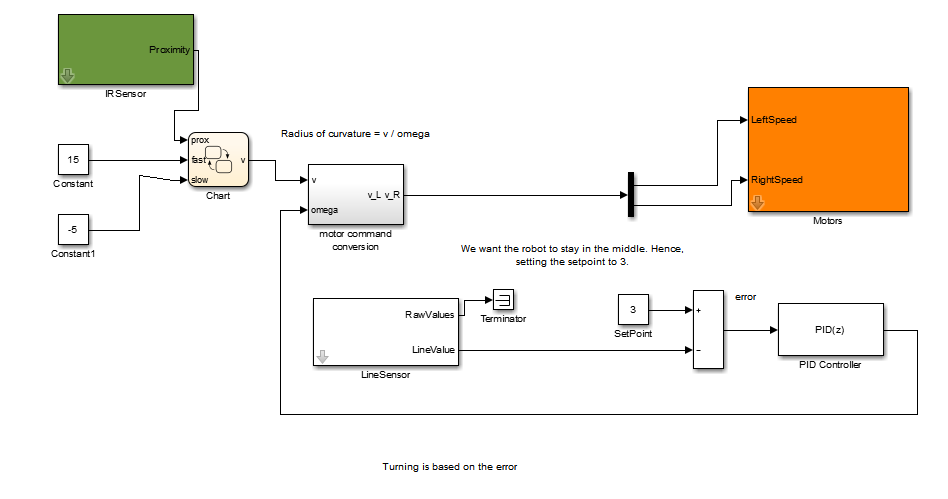
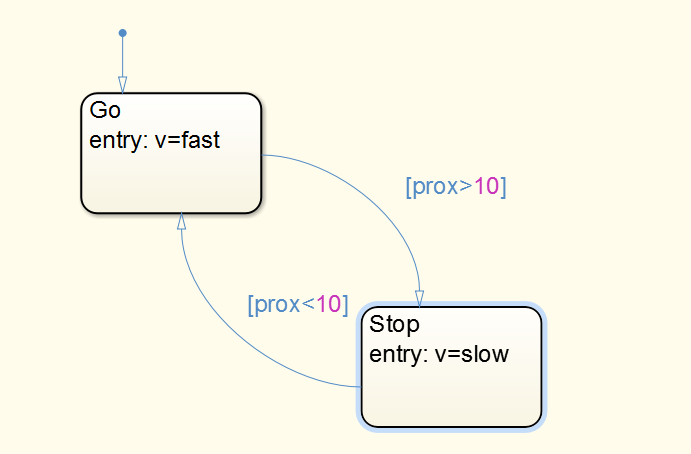
Goal: To discuss PID (proportional integral derivative) line following and create a line following robot which stops when an obstacle is placed in itss way.

Standards Covered: (f), (i), (j)

Example Model: LineFollowingWithProxCompletV1.slx



Sequence:

1. Discuss: The objective in the above model is to create a line following robot which will stop when faced with an obstacle out in front of it. The chart for this model has three inputs: “prox”, “fast” and “slow”. The fast and slow inputs are attached to two constant values *(20 min)*
2. Line Following with Proximity Chart:
3. The chart shows how the output values of v, which in the Simulink model is used to control the speed of the line following changes when faced with an object. It is necessary to slow the line following rather than stop it outright because line following sensor readings need to be uninterrupted *(10 min)*

Activities to Consider:

* + - 1. Adjust some of the values to improve the proximity line following robot
      2. Program the robot to pause at a broken line then cross the gap to continue line following.
      3. Light following robot which can lock onto a line and follow it. And disconnect from the end of the line when a perpendicular portion of tape marks the exit point.

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