Purpose of Module

This module provides functions to control the motors, read the light sensor, and read the bumper sensors on the CMPE118 Cockroach 3000.

INTERFACE

Module Functions

RoachInit

PROTOTYPE: void RoachInit(void)

CONTENTS: This is the initialization routine for the Roach functions.

PARAMETERS: None

RETURNS: Nothing

RightMtrSpeed

PROTOTYPE: char RightMtrSpeed(char newSpeed)

CONTENTS: This function is used to set the speed and direction of the right motor. A negative value is reverse and 0 is stop.

PARAMETERS: NewSpeed -- a speed value between -10 and 10

RETURNS: SUCCESS -- if operation successful
        ERROR -- otherwise

LeftMtrSpeed

PROTOTYPE: char LeftMtrSpeed(char newSpeed)

CONTENTS: This function is used to set the speed and direction of the left motor. A negative value is reverse and 0 is stop.

PARAMETERS: NewSpeed -- a speed value between -10 and 10

RETURNS: SUCCESS -- if operation successful
        ERROR -- otherwise

LightLevel

PROTOTYPE: unsigned int LightLevel(void)

CONTENTS: This will read the light sensor, returns a number proportional to the amount of light being received.

PARAMETERS: None

RETURNS: A 10-bit value indicating the amount of light present.

ReadFrontLeft, ReadFrontRight, ReadBackLeft, ReadBackRight

PROTOTYPE: unsigned char ReadFrontLeft(void)

CONTENTS: This will check a bumper sensor and determine if a bump has occurred.

PARAMETERS: None

RETURNS: BUMPER_TRIPPED -- if bumper is tripped
        BUMPER_NOT_TRIPPED -- otherwise