LAB2 REPORT

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The current lab's goals

- Configure GPIO pins and PWM peripheral to drive the motors.
- Configure motors to be adjustable (forward, back, left, right etc.)
- Enable software to control direction and speed.

Steps taken to accomplish the goals

- Configure PB4, PB5, PE4, PE5 GPIO pins as the PWM peripheral in the alternate function register.
- Configure the port control register for each GPIO pin to determine which module each of the pins are connected to.
- Configure PF2 as a digital input and PF3 as a digital output (PF3 must be connected to nsleep pin – MUST be set to 1)
- Write routines to configure peripheral.
- Develop the driver for different movements (Left Forward, Right Forward etc.)

Problems faced and how it was solved

Motors would not work. We forgot to wait for the peripheral clock to start up. We needed to busy wait: While ((SYSCTL->PRPWM & pr_mask) ==0) {}

Ready Reference

- Registers to configure PWM signal:
  PWM0 -> _0_LOAD
  PWM0 -> _0_CMPA
  PWM0 -> _0_GENA
  PWM0 -> _0_CTL
  PWM0 -> ENABLE
- Look at the datasheet drv8833.pdf given on (https://ay14-15.moodle.wisc.edu/prod/mod/folder/view.php?id=108529)