

CSE 438 Assignment 2: GPIO control in Linux Answers

Group 30

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1. Writing 74 to `/sys/class/gpio/export` will create a folder `/sys/class/gpio/gpio74`. An error will occur when trying to open `/sys/class/gpio/gpio74/direction` because GPIO74 is a Mux GPIO and you can only write 0 or 1 to `/sys/class/gpio/gpio74/value` and the direction folder does not exist. You can set the direction of the corresponding GPIO10 by changing the value of GPIO74 or by writing in or out to `/sys/class/gpio/gpio10/direction`.
2. GPIO38 which is connected to IO7 has no interrupt modes therefore a rising edge will not trigger an interrupt on the Galileo Gen 2 Board.
3. When you export 3 to `/sys/class/pwm/pwmchip0/export`, it selects the 3rd channel in the 16 channel PWM. The period is 5000000 nano seconds. The period counter cannot be modified individually as all 16 channels in PCA9685 use a single period counter, and the period can only be set up per device at `pwmchip0/device/pwm_period`.