Vigomar Kim Algador
CpE – 187 FA2022

Laboratory 06: Branching Functions Delays

SIMULATION: https://youtu.be/C9QGzfO6xpY

HARDWARE: https://youtu.be/C2nDoBVJaiA

QUESTIONS:

Problem # 1: Refer to TM4C123 data sheet to describe the function of the following registers.

(1) GPIO Data Register (GPIODATA)

During a write, if the address bit associated with the data bit is set, the value of the GPIODATA register is changed. If the address bit is cleared, the data bit will not change.

(2) GPIO Direction Register (GPIODIR)

Used to configure each pin as an input or output.

(3) GPIO Alternate Function Select Register (GPIOAFSEL)

If a bit is clear the pin is used as a GPIO and controlled by the GPIO registers.

(4) GPIO Digital Enable Register (GPIODEN)

To use the pin as a digital input or put, the corresponding GPIODEN must be set.

(5) GPIO Lock Register (GPIOLOCK)

Enables the write access to the GPIOCR register.

(6) Run Mode Clock Gating Control Register 2 (RCGC2)

Controls the clock gating logic in normal run mode.

Problem # 2: Refer to TM4C123 Datasheet to fill in the following blanks/answer questions.

(1) The address of GPIO_PORTF_DATA_R register is _____. (See APB Base)

$4000.53FC

(2) The address of SYSCTL_RCGC2_R register is_____.

$400F.E108

(3) What happens when we write a value of 0x03 to the GPIO_PORTF_DEN_R register?

It sets PORTF pins 1 to 0 as digital pins