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-----------------------------------------------------------------------
-- DESCRIPTION  :  PRODUCES A SIGNAL SUITABLE FOR DRIVING THE FRONT PANEL LED.
-- THE INDICATOR CAN BE STIMULATED VIA ONE OF FOUR INPUTS TO PRODUCE A STEADY
-- OR FLASH INDICATION.
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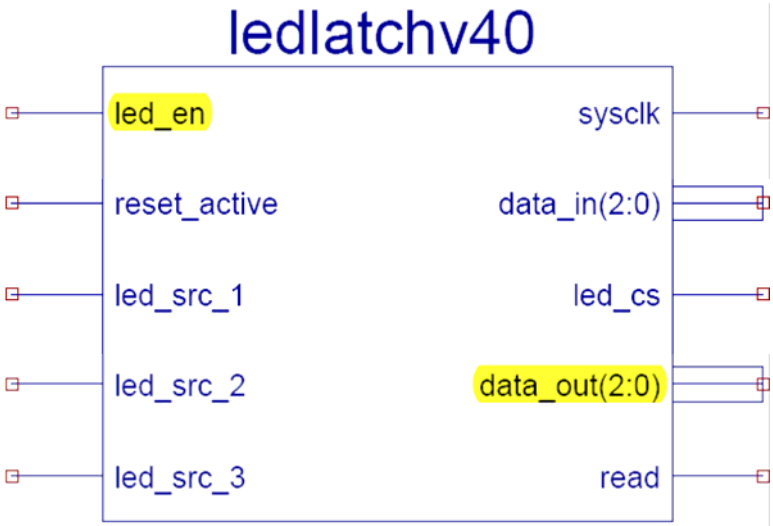
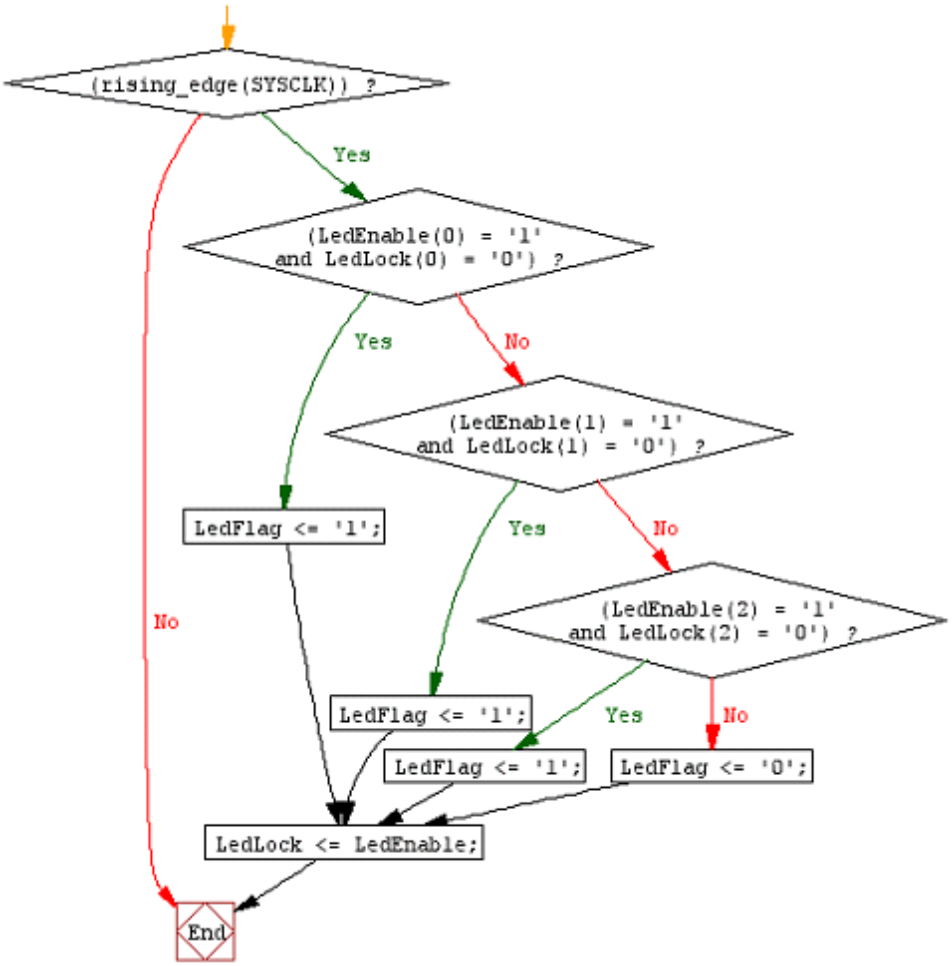
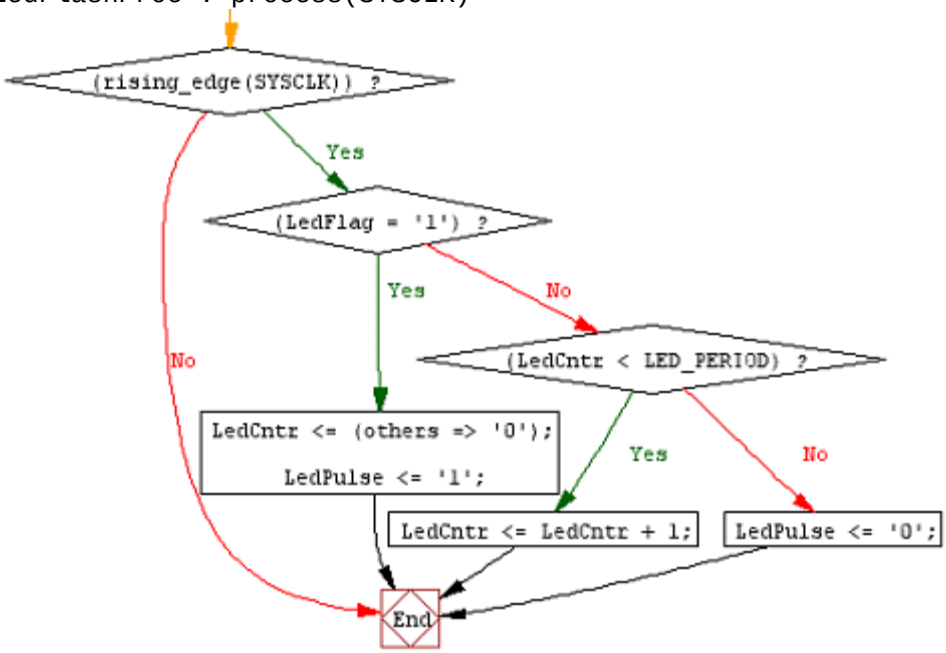
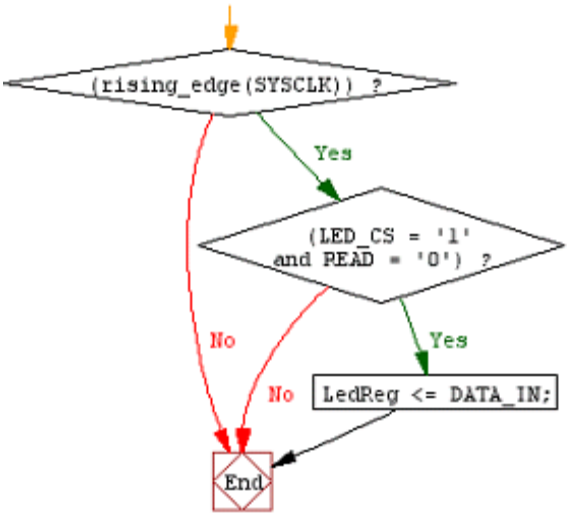



```
SYSCLK        : in  std_logic;
LED_CS        : in  std_logic;
READ          : in  std_logic;
RESET_ACTIVE  : in  std_logic;
LED_SRC_1     : in  std_logic;
LED_SRC_2     : in  std_logic;
LED_SRC_3     : in  std_logic;
DATA_IN       : in  std_logic_vector(2 downto 0);
DATA_OUT      : out std_logic_vector(2 downto 0);
LED_EN        : out std_logic

constant LED_PERIOD : std_logic_vector(19 downto 0):= x"F4240"; -- 25 ms pulse width.
signal LedReg    : std_logic_vector(2 downto 0);
signal LedEnable : std_logic_vector(2 downto 0);
signal LedLock   : std_logic_vector(2 downto 0);
signal LedCntr   : std_logic_vector(19 downto 0);
signal LedFlag, LedPulse : std_logic;

LedEnable(0) <= LedReg(0) and LED_SRC_1;
LedEnable(1) <= LedReg(1) and LED_SRC_2;
LedEnable(2) <= LedReg(2) and LED_SRC_3;
LED_EN  <= RESET_ACTIVE or LedPulse;
DATA_OUT <= LEDReg;
```

LedEnableProc : process(SYSCLK)



LedFlashProc : process(SYSCLK)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LedLatchProc : process(SYSCLK)
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