

## Features

- Uses APIs to erase and write row of data to flash

## General Description

This example project demonstrates the basic operation with the FLASH memory: to write a pattern row into the row of the FLASH memory. The project shows users how they can create the pattern of the data and write it into the FLASH memory in the firmware.

## Development kit configuration

This example project is designed to run on the CY8CKIT-042 kit from Cypress Semiconductor. A description of the kit, along with more example programs and ordering information, can be found at <http://www.cypress.com/go/cy8ckit-042>.

The project requires configuration settings changes to run on other kits from Cypress Semiconductor. Table 1 is the list of the supported kits. To switch from CY8CKIT-042 to any other kit, change the project's device with the help of Device Selector called from the project's context menu.

Table 1. Development Kits vs Parts

Development Kit	Device
CY8CKIT-042	CY8C4245AXI-483
CY8CKIT-040	CY8C4014LQI-422
CY8CKIT-042-BLE	CY8C4247LQI-BL483
CY8CKIT-044	CY8C4247AZI-M485
CY8CKIT-046	CY8C4248BZI-L485
CY8CKIT-030	CY8C3866AXI-040
CY8CKIT-050	CY8C5868AXI-LP035
CY8CKIT-001	CY8C3866AXI-040 / CY8C5868AXI-LP035
CY8CKIT-041	CY8C4045AZI-S413 / CY8C4146AZI-S433
CY8CKIT-048	CY8C4A45LQI-483

The pin assignments for the supported kits are in Table 2.

Table 2. Pin Assignment

Pin Name	Development Kit							
	CY8CKIT-042	CY8CKIT-040	CY8CKIT-042 BLE	CY8CKIT-044	CY8CKIT-046	CY8CKIT-030	CY8CKIT-050	CY8CKIT-001*
LED_Ok	P0[2]	P1[1]	P3[6]	P2[6]	P5[3]	P6[2]	P6[2]	P1[7]
LED_Error	P1[6]	P3[2]	P2[6]	P0[6]	P5[2]	P6[3]	P6[3]	P2[7]

Table 2. Pin Assignment (continuous)

Pin Name	Development Kit	
	CY8CKIT-041	CY8CKIT-048
LED_Ok	P2[6]	P2[6]
LED_Error	P3[4]	P1[4]

\* For the CY8CKIT-001 kit: connect P1[7] (LED\_Ok) to P14 (LED1); connect P2[7] (LED\_Error) to P14 (LED4).

The following steps should be performed to observe the project operation:

1. Build the project and program the hex file into the target device.
2. Power cycle the device and observe the results on LEDs.

## Project Configuration

The example project consists of the Pins components. Flash APIs is a part of the cy\_boot component.

The pins are used to show (by LEDs blinking) when an error occurs and data comparing succeeds.

## Project Description

At the beginning of the main function, LEDs turn off, the flash row data pattern is generated, a row of Flash is erased and the row data pattern is programmed in the cycle. A row from the flash is compared with the row data pattern (if an error during writing to the Flash or comparing data occurs, LED\_Error lights on and the processor halts). If an error occurs during a data comparison, LED\_Error blinks with approximately 1 second intervals to show the error. If no error occurs during a data comparison, LED\_Ok blinks with approximately 1 second intervals.

## Expected Results

Program the device with the project and observe that the green LED is toggled with approximately 1 second intervals.



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