MKEL1123-05 ADVANCED MICROPROCESSOR SYSTEM

MILESTONE 1

Name: **Muhammad Syafiq Bin Abd Halim**
Umi Nur Idayu Binti Mohd Hisham
Aziidah Izzati Binti Abdul Basit

Steps to set up the Blinky LED on Nucleo-F466RE board

1. Install any accessible Integrated Development Environment (IDE)/compiler. For this task, STM32CubeIDE has been implemented and can be obtained from https://www.st.com/en/development-tools/stm32cubeide.html.
2. Connect your PC to the Nucleo board. To begin a new project, go to File > New > STM32 Project in the compiler interface. A new user interface will appear. We searched for a Nucleo-F466RE board to find our board.
3. Type in the project's name and keep the rest of the settings unchanged.
4. When the message "Initialize all peripherals with their default Mode?" appears, select "Yes" to programme the pins on the board with all of the pre-built functionality.
5. Select "Project >>Generate Code" from the menu bar, or press Alt+K and code in the while loop within the "main" function.
6. We need to change the *while(1)* function in the main.c file. Before modifying the main.c file, we should double-check the LED pin configuration to ensure that we are assigned the proper pin.
7. To do so, we must first download the board configuration or the.ioc file, which can be found on the left side of the interface.
8. After validating our LED pin setup, which in this case is *GPIOA PIN 5* on our Nucleo-F466RE board, we return to the main.c file and update it.
9. Go to *while(1)* function and add this line:

```
while (1)
    {
```

HAL_GPIO_WritePin(GPIOA, GPIO_PIN_5, 1);
HAL_Delay(1000);
HAL_GPIO_WritePin(GPIOA, GPIO_PIN_5, 0);
HAL_Delay(1000);

10. Once you've added those two lines, go to Project > Build Project to compile the code.
11. Select Run > Debug As > STM32 MCU C/C++ Application from the menu. An interface will appear; simply leave it as is and click OK.
12. When you are requested to adjust your perspective, confirmation windows will appear. Click the switch button to open a new window perspective with a new toolbar at the top.
13. A play button may be seen on the toolbar. To begin running your Blinky programme on your Nucleo board, press the play button.
14. Your GREEN LED labeled LD2 may be seen turning on and off. To adjust the timing of the LD2's on and off, edit the *HAL_DELAY(TIME)* variable to your liking.