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

- 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 loc 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.