MKEL1123-06 ADVANCED MICROPROCESSOR SYSTEM

MILESTONE 1

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Steps to set up the Blinky app on NUCLEO-F446RE

1. First, download and install STM32CubeIDE from https://www.st.com/en/development-tools/stm32cubeide.html
2. Start a new STM32 project.
3. Type "NUCLEO-F446RE" in the "Board Selector" tab.
4. Enter the project name and leave all the settings as default.
5. Select "Yes" if the system asks whether to "Initialize all peripherals with their default Mode?" This step basically programs the pins on the board with all the functions pre-built with the board.
6. In the "Project" tab, select "Generate Code", or alternatively, press Alt+K.
7. Scroll down to the while loop inside the "main" function and starts coding.
8. There are two methods to make the LED on the board blink.
   a. WritePin Method

```
while (1)
{
    HAL_GPIO_WritePin(GPIOA, GPIO_PIN_5, 1);
    HAL_Delay(1000);
    HAL_GPIO_WritePin(GPIOA, GPIO_PIN_5, 0);
    HAL_Delay(1000);
  /* USER CODE END WHILE */

  /* USER CODE BEGIN 3 */
}
```

   b. TogglePin Method

```
while (1)
{
    HAL_GPIO_TogglePin(GPIOA, GPIO_PIN_5);
    HAL_Delay(1000);

  /* USER CODE END WHILE */

  /* USER CODE BEGIN 3 */
}
```

9. Click on the "Hammer" icon at the top to build the project and make sure there's no error.
10. Clink on the "Play" icon at the top to run the code on the board. Leave the settings as default and click "OK".
11. If this message shows up, it means the code has been successfully uploaded and it's time to check your board!

```
Download verified successfully


Debugger connection lost.
Shutting down...
```