EE2016 Experiment-8

Group-3 EE23B027, EE23B033, EE23b039

Task 1

Completed Code:

```
    AREA LED, CODE, READONLY
    ENTRY
    EXPORT SystemInit
    EXPORT __main

PINSEL10 EQU 0xE002 C028
FIO2DIR EQU 0x3FFF C040
PINSEL4 EQU 0xE002 C010
FIO2PIN EQU 0x3FFF C054
```

Task 2

Completed Code:

```
SystemInit
    LDR R0, =PINSEL10
    LDR R1, [R0]
    MOV R2, 0x00000000
    STR R2, [R0]
```

Task 3

Completed Code:

```
    LDR R0, =PINSEL4
    MOV R2, 0x00000000
    STR R2, [R0]
```

Task 4

Completed Code:

```
    LDR R0, =FIO2DIR
    MOV R2, 0x000000FF
    STR R2, [R0]
```

Task 5

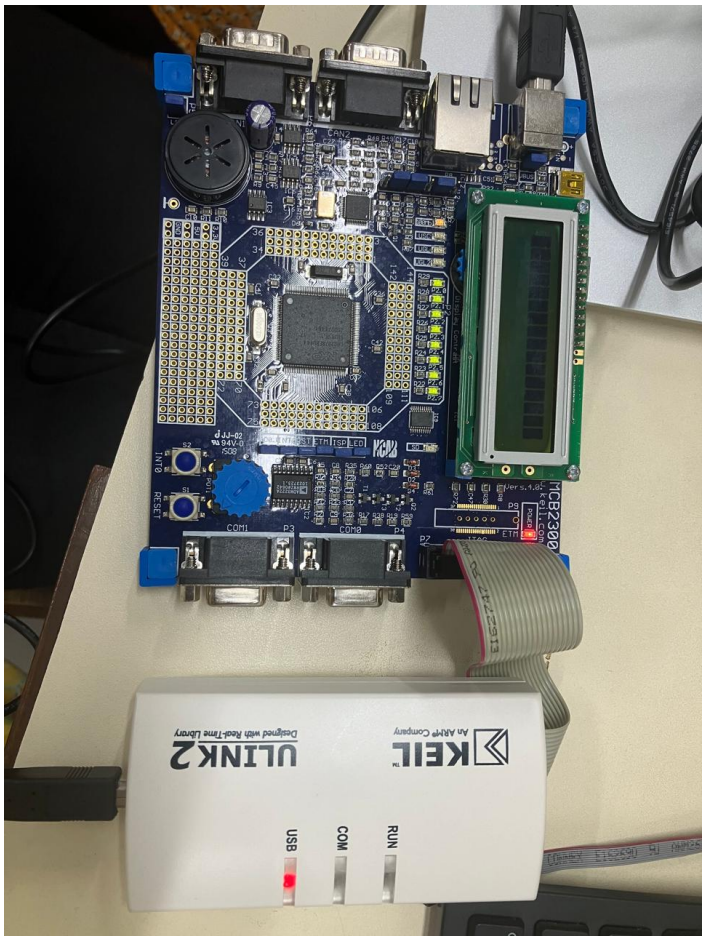
To display a number on the LEDs on the MCB2300 board.

```
    AREA LED, CODE, READONLY
    ENTRY
    EXPORT SystemInit
    EXPORT __main

PINSEL10 EQU 0xE002 C028
FIO2DIR EQU 0x3FFF C040
PINSEL4 EQU 0xE002 C010
FIO2PIN EQU 0x3FFF C054
```

```
SystemInit
    LDR R0, =PINSEL10
    LDR R1, [R0]
    MOV R2, 0x00000000
    STR R2, [R0]

    LDR R0, =PINSEL4
    MOV R2, 0x00000000
    STR R2, [R0]

    LDR R0, =FIO2DIR
    MOV R2, 0x000000FF
    STR R2, [R0]

__main
    LDR R0, FIO2PIN
    MOV R2, #0x000000AA
    STR R2,[R0]


forever
    B forever

END
```

Debugging

:



Task 6

To make the LEDs blink.

```
    AREA LED, CODE, READONLY
```

```
    ENTRY
    EXPORT SystemInit
    EXPORT __main

PINSEL10 EQU 0xE002C028
FIO2DIR EQU 0x3FFFC040
PINSEL4 EQU 0xE002C010
FIO2PIN EQU 0x3FFFC054

SystemInit
    LDR R0, =PINSEL10
    LDR R1, [R0]
    MOV R2, #0x00000000
    STR R2, [R0]

    LDR R0, =PINSEL4
    MOV R2, #0x00000000
    STR R2, [R0]

    LDR R0, =FIO2DIR
    MOV R2, #0x000000FF
    STR R2, [R0]

__main
    loop
        LDR R0, =FIO2PIN
        MOV R2, #0x000000FF
        STR R2,[R0]

        BL delay

        MOV R2, #0x0000007E
        STR R2, [R0]

        BL delay

        MOV R2, #0x0000003C
        STR R2, [R0]

        BL delay

        MOV R2, #0x00000018
        STR R2, [R0]

        BL delay

        MOV R2, #0x00000000
        STR R2, [R0]

        BL delay

    B loop

delay
    LDR R3, =0x0000FFFF
    B delayloop
    BX LR

delayloop
    SUBS R3, R3, #1
    BNE delayloop
    BX LR

END
```

Debugging

Click here to view the video of Debugging