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        AREA    AsmTemplate, CODE, READONLY
        IMPORT  main

//sample program makes the 4 LEDs P1.16, P1.17, P1.18, P1.19 go on and off in sequence
//(c) Mike Brady, 2011.

EXPORT  start
start

//Memory Locations & Values(Pre-Defined)
IO1DIR  EQU     0xE0028018
IO1SET  EQU     0xE0028014
IO1CLR  EQU     0xE002801C


        LDR R1,=IO1DIR                          //Outputs location

        LDR R2,=0x000F0000                      //Select P1.19--P1.16 using mask
        STR R2,[R1]                             //Make them outputs

        LDR R1,=IO1SET                          //R1 = LED OFF
        STR R2,[R1]                             //Turn off all LEDs

        LDR R2,=IO1CLR                          //R2 = LED ON

        LDR R5,=0x00100000                      //endMask

wloop
        LDR R3,=0x00010000                      //firstPin = P1 (using mask)
floop
        STR R3,[R2]                             //Turn LED on by storing pin into IO1CLR

        LDR R4,=2000000                         //Delay for about 1/2s
dloop
        SUBS R4, R4 ,#1
        BNE     dloop

        STR     R3,[R1]                         //Turn off LED by storing pin into R1
        MOV     R3,R3,LSL #1                    //Shift up to next bit. P1.16 -> P1.17 etc.

        CMP     R3,R5                           //If nextBit > endMask
        BNE     floop                           //Reset to P1
        B       wloop                           //Else continue

stop    B       stop

        END
```