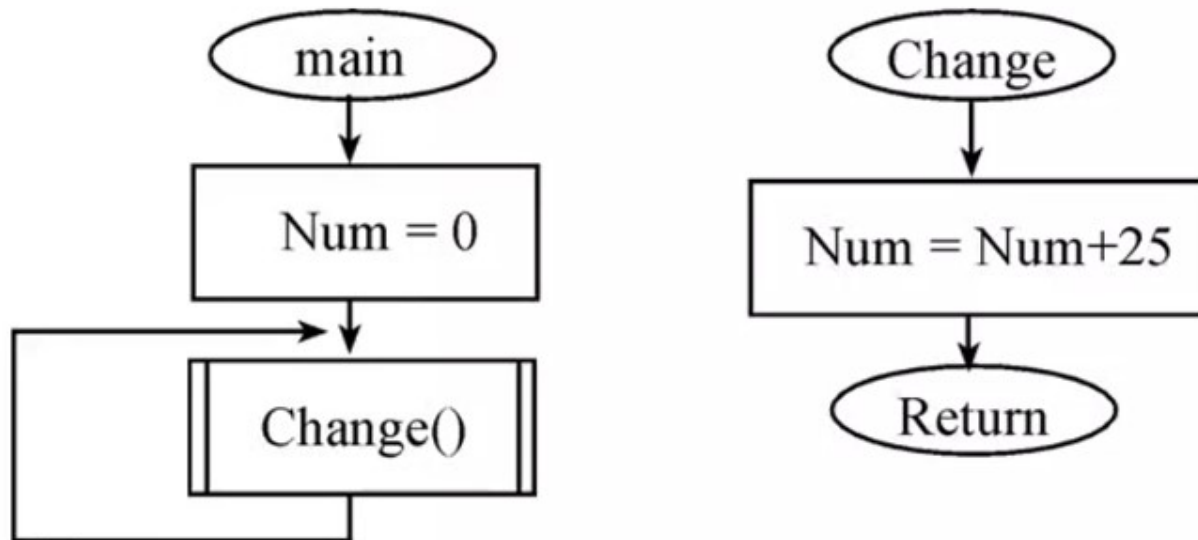


Functions



Change	LDR	R1,=Num	; 5) R1 = &Num
	LDR	R0,[R1]	; 6) R0 = Num
	ADD	R0,R0,#25	; 7) R0 = Num+25
	STR	R0,[R1]	; 8) Num = Num+25
	BX	LR	; 9) return
main	LDR	R1,=Num	; 1) R1 = &Num
	MOV	R0,#0	; 2) R0 = 0
	STR	R0,[R1]	; 3) Num = 0
loop	BL	Change	; 4) function call
	B	loop	; 10) repeat

```

unsigned long Num;
void Change(void){
    Num = Num+25;
}
void main(void){
    Num = 0;
    while(1){
        Change();
    }
}
    
```

Array Example

```
for(int i=0; i< 5;i++)  
{  
    aa[i] = i;  
    bb[i] = 5;  
}
```

aa
bb

main

forloop2

forDone2

AREA DATA

SPACE 40

SPACE 40

MOV R4,#0 ; i=0

MOV R3,#5

CMP R4,#5 ; is i<5

BGE forDone2

LDR R0,=aa ;aa[i] = aa+4*i

ASL R2,R4,#2 ; R2=i*4

STR R4,[R0,R2]

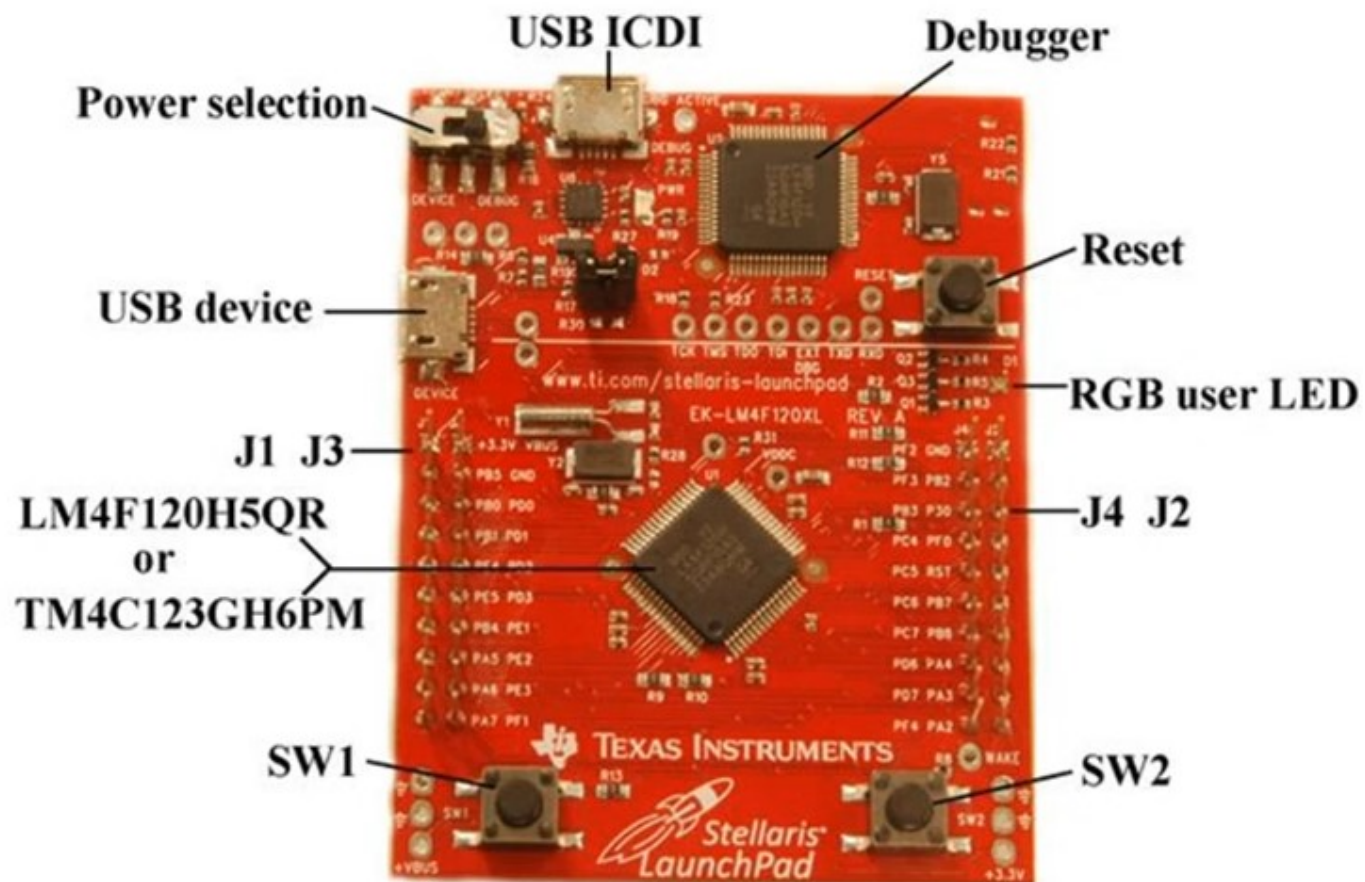
LDR R6,=bb

STR R3,[R6,R2] ; bb+i*4

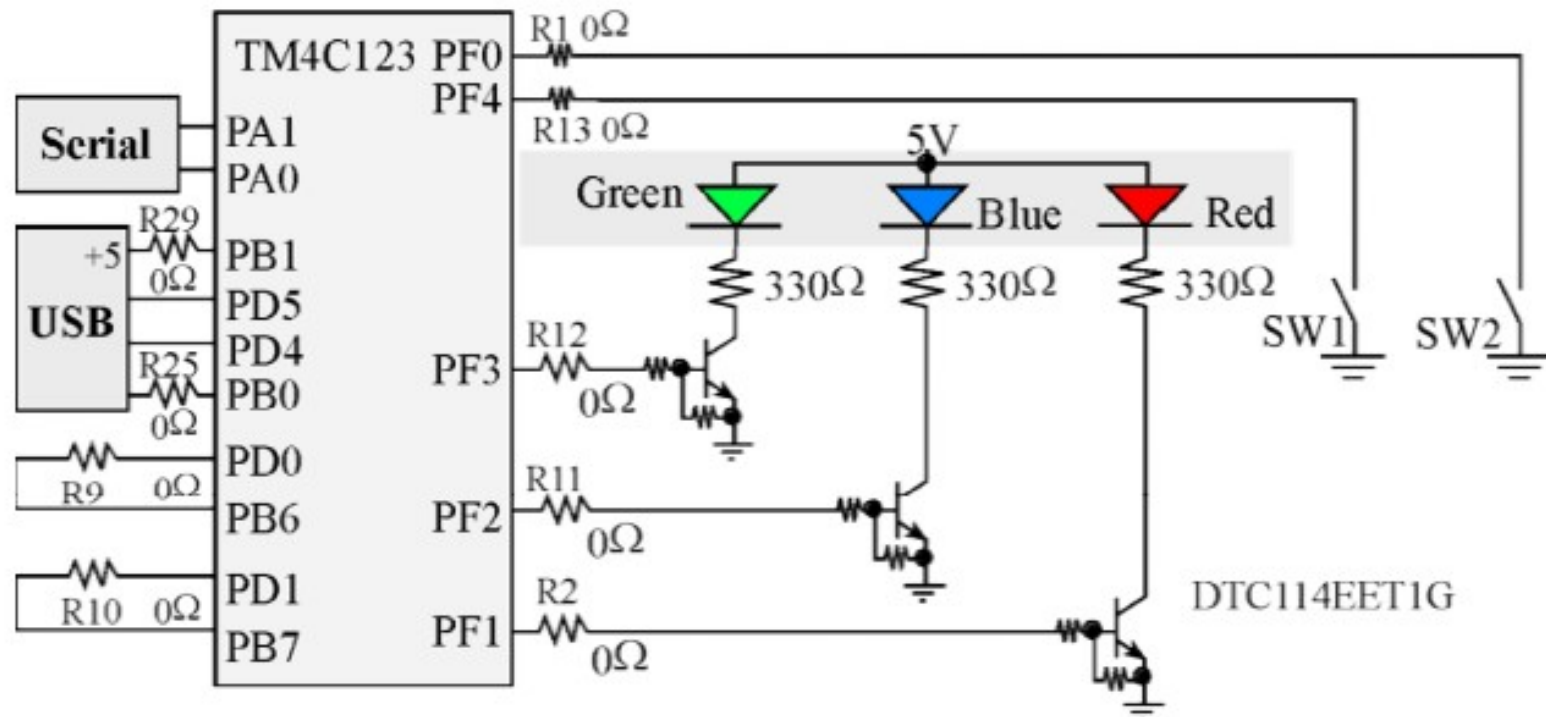
ADD R4,R4,#1

B forloop2

Tiva C Board

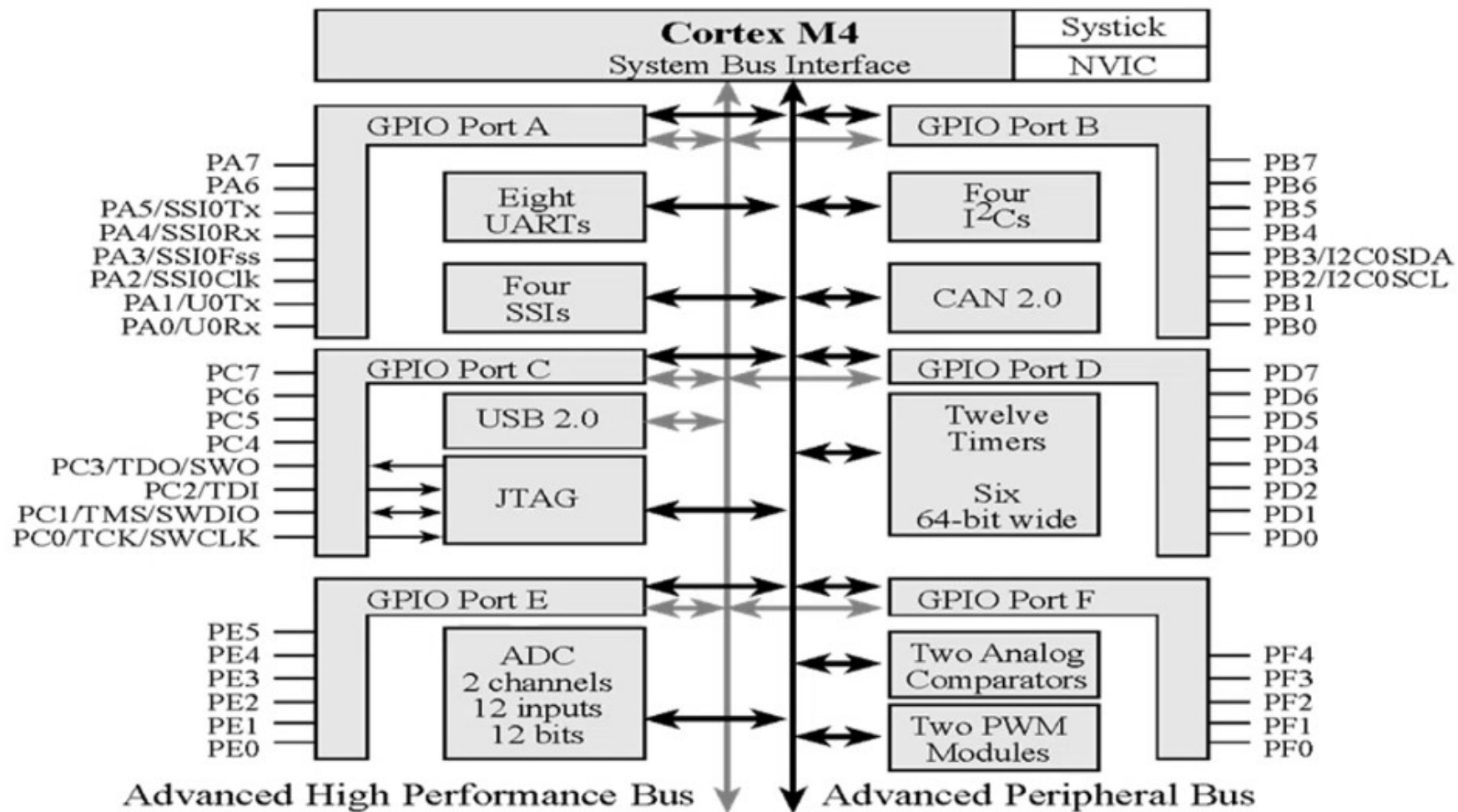


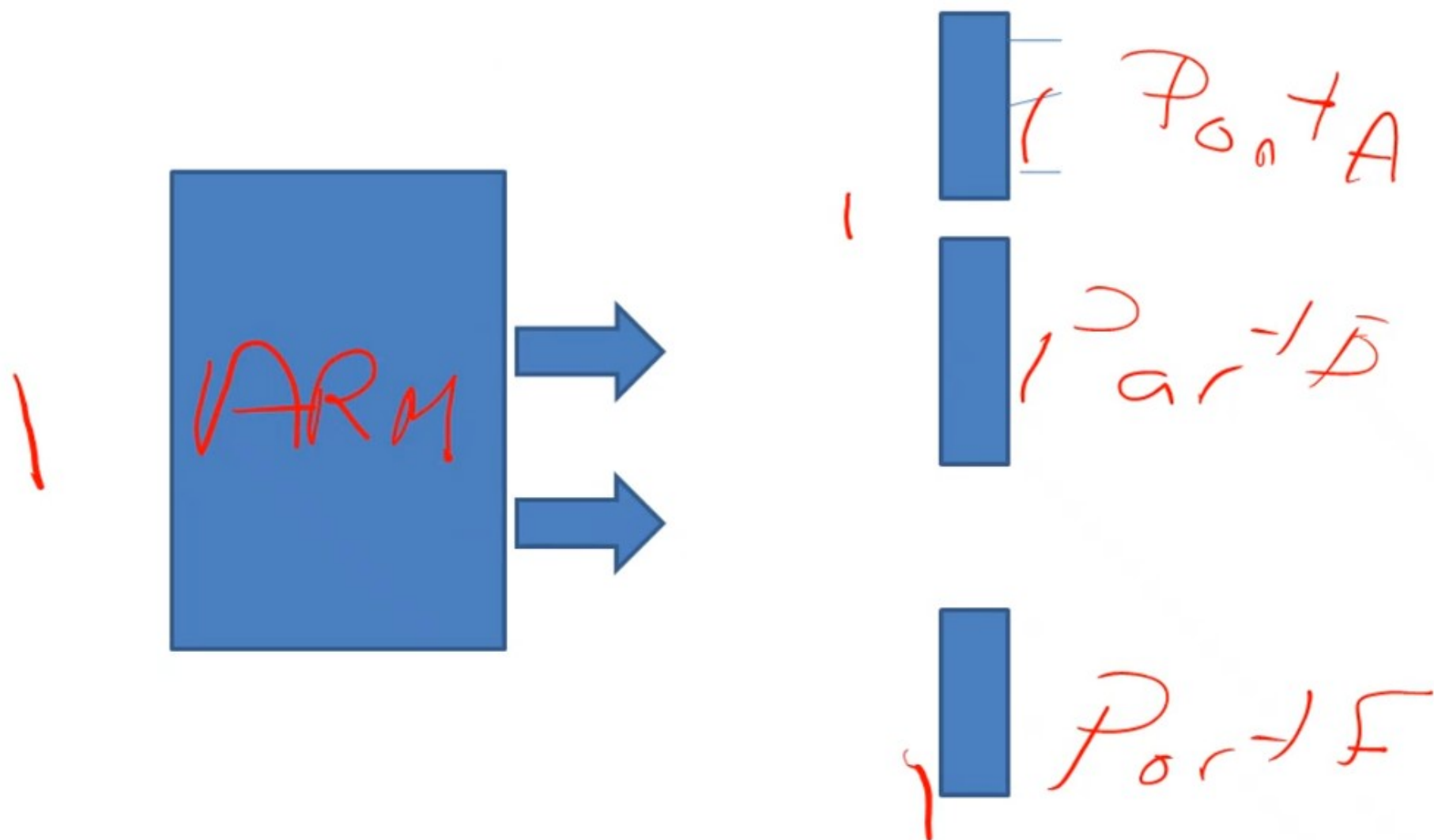
LaunchPad Switches and LEDs



- ❑ The switches on the LaunchPad
 - ❖ Negative logic
 - ❖ Require internal pull-up (set bits in PUR)
- ❑ The PF3-1 LEDs are positive logic

Texas Instruments TM4C123





I/O Programming

[illegible]

Set Port Direction & Port Type

```
LDR    R1,= GPIO_PORTF_DIR_R  
MOV     R0,#0x0E  
STR     R0,[R1]
```

```
LDR     R1,=GPIO_PORTF_DEN_R  
MOV     R0,#0xFF  
STR     R0,[R1]
```
