**Exercise 10.1**

1| MOV R0, #.white

2| MOV R1, #.red

3|flash:

4| BL delay

5| STR R1, .Pixel335

6| BL delay

7| STR R0, .Pixel335

8| B flash

9| HALT

10|delay:

11| PUSH {R4, R5, R6}

12| LDR R6, .Time

13|loop:

14| LDR R4, .Time

15| SUB R5, R4, R6

16| CMP R5, #1

17| BLT loop

18| POP {R4, R5, R6}

19| RET

**Exercise 10.2**

MOV R0, #.white

MOV R1, #.red

flash:

BL oneseconddelay

STR R1, .Pixel335

BL oneseconddelay

STR R0, .Pixel335

ADD R3, R3, #1

CMP R3, #3

BLT flash

BL twosecondsdelay

MOV R3, #0

B flash

HALT

oneseconddelay:

PUSH {R4, R5, R6}

LDR R6, .Time

loop1:

LDR R4, .Time

SUB R5, R4, R6

CMP R5, #1

BLT loop1

POP {R4, R5, R6}

RET

twosecondsdelay:

PUSH {R4, R5, R6}

LDR R6, .Time

loop3:

LDR R4, .Time

SUB R5, R4, R6

CMP R5, #2

BLT loop3

POP {R4, R5, R6}

RET

**Exercise 10.3**

MOV R0, #t1

STR R0, .WriteString

LDR R0, .InputNum

MOV R1, #t2

STR R1, .WriteString

LDR R1, .InputNum

flash:

BL oneseconddelay

BL reddraw

BL oneseconddelay

BL whitedraw

ADD R3, R3, #1

CMP R3, R0

BLT flash

BL subdelay

MOV R3, #0

B flash

HALT

reddraw:

PUSH {R4}

MOV R4, #.red

STR R4, .Pixel335

POP {R4}

RET

whitedraw:

PUSH {R4}

MOV R4, #.white

STR R4, .Pixel335

POP {R4}

RET

oneseconddelay:

PUSH {R4, R5, R6}

LDR R6, .Time

loopa:

LDR R4, .Time

SUB R5, R4, R6

CMP R5, #1

BLT loopa

POP {R4, R5, R6}

RET

subdelay:

PUSH {R4, R5, R6}

LDR R6, .Time

loopb:

LDR R4, .Time

SUB R5, R4, R6

CMP R5, R1

BLT loopb

POP {R4, R5, R6}

RET

t1: .ASCIZ "Enter the number of rapid 1 second flashes before the pause:\n"

t2: .ASCIZ "Enter the pause time (in secs) between each set of rapid flashes:\n"