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"
```