

Homework #6

3. (a) LDRH R0, a  
CMP R0, #0  
BLS EndIf  
CMP R0, #99  
BHI EndIf  
LDRH R1, b  
LSL R1, R1, #2  
STRH R1, b  
  
EndIf:  
...
- (b) LDR R0, a  
CMP R0, #100  
BGT Then  
CMP R0, #50  
BGE EndIf  
  
Then:  
LDR R1, b  
AND R0, R0, R1  
STR R0, a
- (c) LDR R0, a  
CMP R0, #200  
BLS Else  
LDR R0, b  
CMP R0, #0  
BLS EndIf  
LDR R0, =5  
STR R0, c  
B EndIf  
  
Else:  
LDR R0, =-5  
STR R0, c  
  
EndIf:  
...
4. (a) LDRSH R0, a  
LDRSH R1, b  
CMP R0, R1  
ITT GT  
ADDGT R1, R1, #2  
STRHGT R1, c
- (b) LDRH R0, a  
LDRH R1, b  
CMP R0, R1  
ITE EQ  
LDREQ R0, #0  
SUBNE R0, R0, R1  
STRH R0, c
- (c) LDR R0, b  
LDR R1, c
- CMP R0, R1  
ITE LT  
STRLT R0, a  
STRGE R1, a
- (d) LDR R0, b  
CMP R0, #0  
ITE GT  
LDRGT R0, =5  
LDRLE R0, =-5  
  
LDR R1, a  
CMP R1, #200  
IT HI  
STRHI R0, c

6. (a) LDR R0, a  
LDR R1, =125  
BL f1  
STR R0, x
- (b) LDRB R0, c  
BL f2
- (c) ADR R0, c  
BL f3
- (d) ADD R0, R0, R2  
ADC R1, R1, R3  
BX LR
- (e) LDR R0, =100  
ADR R1, n32  
BL foo  
STRD R0, R1, n64
- (f) PUSH {R4, LR}  
MOV R4, R0  
LDR R0, =5  
BL green  
ADD R0, R0, R4  
POP {R4, LR}  
BX LR
- (g) LDR R1, [R0]  
LDR R2, =0  
STR R2, [R0]  
MOV R0, R1  
BX LR
- (h) LDR R0, u32  
CMP R0, #10  
ITE HI  
LDRHI R0, =-1  
LDRLS R0, =1  
LDR R1, s32  
ADD R0, R0, R1  
STR R0, s32
- (i) LDR R0, s32  
CMP R0, #-10  
BLT EndIf  
CMP R0, #10  
BGE EndIf  
LDR R0, =0  
STR R0, s32  
EndIf:  
...
- (j) LDR R0, u32  
LDR R1, min  
CMP R1, R0  
BHI Then  
LDR R1, max  
CMP R0, R1  
BLS EndIf  
Then:  
LDR R0, =0  
STR R0, u32  
EndIf:  
...
- (k) LDR R0, s32  
MOV R4, R0  
BL extra  
ADD R0, R0, R4  
STR R0, s32
- (l) LDR R3, [R0]  
LDR R4, [R1]  
STR R4, [R0]  
STR R3, [R1]
- (m) PUSH {R4, LR}  
MOV R4, R1  
BL Blue  
MOV R1, R4  
MOV R4, R0  
MOV R0, R1  
BL Blue  
ADD R0, R0, R4  
POP {R4, LR}  
BX LR