

1. (a) `mov r1, #0x35` = 0011 0101  
`and r2, r1, #0x0F` = 0000 1111  
 value of r2 = 0101 = 5 = 0x05

(b) `mov r0, #0x97` = 1001 0111  
`mov r1, #0xF0` = 1111 1111  
`orr r2, r0, r1` r2 = 1111 1111 = 0xFF

(c) `mov r2, #0x4F` = 0100 1111  
`mov r3, #0x39` = 0011 1001  
`subs r4, r2, r3` r4 = 0001 0110 = 0x16

(d) `mov r0, #0x9a` r0 = 1001 1100  
`movs r1, r0, lsr #3` r1 = 0001 0011  
`cmp r1, r2` Rn2029k

2. (a) ~~loop~~ `jl less`  
`mov r3, #5`  
`jmp both`  
 Less:  
`mov r3, #2`  
 Both:

(b) `mov r1, #1`  
`mov r2, #0`  
~~loop~~ `loop` `lsl r1, #5`  
 bgt done  
`add r2, r2, r1`  
`add r1, r1, #1`  
 b loop  
 done:

3. 0011 0011  
 (a) 1. 1001 1001  
 2. 1100 1100  
 3. 0110 0110  
 4. 0011 0011  
 5. 1001 1001  
 6. 1100 1100  
 7. 0110 0110  
 (b) 4. 0011 0011