CSS422 Homework 3 Grade Rubric

| Q1 | 4pts | | | Points | Your Grade |
| --- | --- | --- | --- | --- | --- |
|  | 1-1: 0x27FE  = 2\_0010 0111 1111 1110  = 2\_001000 111 11111110  = MOVS R7, #0xEF  = **MOVS R7, #254**  MOVS: 1pt, MOVS either correct R7 or #imm8 (hex or dec): 1.5pts,  MOVS R7, #0xEF: 1.8pts, MOVES R7, #254: 2pts | | | 2 | 2 |
| 1-2: 0xF1190AFF  = 2\_1111 0001 0001 1001 0000 1010 11111111  = 2\_11110 0 01000 1 1001 0 000 1010 11111111  = ADDS R10, R9, #FF  = **ADDS R10, R9, #255**  ADDS: 1pt, ADDS with 2 correct operands: 1.5pts,  ADDS R10, R9, #FF: 1.8pts, ADDS R10, R9, #255: 2pts | | | 2 | 2 |
| Q2 | 2pts | | |  |  |
|  | **LSL R2, R1, #6 ; x 64 … 0.5pts**  **LSL R3, R1, #5 ; x 32 … 0.5pts**  **LSL R4, R1, #2 ; x 4 … 0.5pts**  **ADD R2, R2, R3 ; the correct use of ADD … 0.5pts**  **ADD R2, R2, R4** | | | 2 | 2 |
| Q3 | 6pts | | |  |  |
|  | 0x2000.0000 | \0 “SSC.BWU” | 0.8pts | 6 | 4.8 |
| 0x0000.0014 | LDR R2, =dst | 0.8pts (0.4 in your case) |
| 0x0000.0012 | LDR R1, =src1 | 0.8pts (0.4 in your case) |
| 0x0000.0010 | LDR R0, =src0 | 0.8pts (0.4 in your case) |
| 0x0000.000C | \0 “SSC” | 0.8pts |
| 0x0000.0008 | \0 “BWU” | 0.8pts |
| 0x0000.0004 | 00000011 | 1.2pts (00000010 1pt) |
| Q4 | 8pts | | |  |  |
|  | Source code  **;left right value**  **node1 DCD 0x10C, 0x130, 4**  **node2 DCD 0x118, 0x124, 2**  **node3 DCD 0, 0, 1**  **node4 DCD 0, 0, 3**  **node5 DCD 0x13C, 0x148, 6**  **node6 DCD 0, 0, 5**  **node7 DCD 0, 0, 7**    **LDR R0, =8 ; a value to look for**  **LDR R1, =0x100 ; struct node \*R1 = node1 i.e., root)**  **loop LDR R2, [R1, #8] ; R2 = R1->value … 1pt**  **CMP R0, R2**  **BEQ found**  **CMP R0, R2**  **BLT chk\_left. ; go left … 1pt**  **CMP R0, R2**  **BGT chk\_right. ; go right … 1pt**  **chk\_left LDR R1, [R1]. ; (R1 = R1->left) !- null? … 1pt**  **CMP R1, #0**  **BEQ not\_found**  **B loop**  **chk\_right LDR R1, [R1, #4]; (R1 = R1->right) != null? … 1pt**  **CMP R1, #0**  **BEQ not\_found**  **B loop**  **found**  **ADD R1, R1, #8**  **not\_found**  **END** | | | 5 | 5 |
| Test case 1 (where R0 = 0)’s snapshot of registers (R1 – R13, LR, PC) | | | 1 | 0.5 |
| Test case 2 (where R0 = 5)’s snapshot of registers (R1 – R13, LR, PC) | | | 1 | 0.5 |
| Test case 3 (where R0 = 8)’s snapshot of registers (R1 – R13, LR, PC) | | | 1 | 0.5 |
| Total: | | | | 20 | 17.3 |

Comments: The code logic looks okay.