

Embedded Systems Homework - 3

Iman Tabrizian (9331032)

October 30, 2017

1 PROBLEM 2

We convert the number to binary and store the part with less value inside the little endian and store the part with greater value inside the big endian. And continue storing the parts with more values in the successive registers.

Address	Little Endian	Big Endian
N	D1	DE
N + 1	DE	CO
N + 2	CO	DE
N + 3	DE	D1

2 PROBLEM 3

We have to subtract from SP by 4 for every push that we make.

Push r0: $0x0000_2220 - 0x0000_0004 = 0x0000_221C$

Push r1: $0x0000_221C - 0x0000_0004 = 0x0000_2218$

3 PROBLEM 4

We should load 1000 to R3 but because **MOV** can only operate on 8 bit values, we can load 250 to R3 and shift it two times.

```
MOV R3, 11111010
LSL R3, R3
LSL R3, R3
SUB R1, R6, R3
```

4 PROBLEM 5

Firstly, we store addresses inside the R0 and R1 then we do the multiplication and we store the result of R2 inside the 0x2000_0010.

```
LDR R0, =0X1234_5678
LDR R1, =0X7894_5612
MUL R2, R0, R1
STR R2, =0X2000_0010
```

5 PROBLEM 6

BLX does the exchange and moves instruction set from Thumb2 to arm and conversly. BL has more speed and doesn't use a register.

Powered by \LaTeX