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19CSE303 Embedded Systems
Lab Worksheet - 1

Exercise Problems

1. **Write a ARM assembly language program to demonstrate the working of move instructions**

```
 AREA exp1_1, CODE, READONLY

 mov r1, #10
 mov r2, r1
 mvn r3, r1
e b e

 end
```

2. **Write a ARM assembly language program to demonstrate the working of arithmetic and logical instructions**

```
 AREA exp1_2, CODE, READONLY

 mov r2, #0x12
 mov r3, #0x13
 add r1, r2, r3
 sub r4, r2, r3
 and r5, r3, r2

e b e
 end
```

Assignment Problems

1. Write ARM assemble language program to perform the below high level operations. Move the appropriate values in the mentioned registers.
    a. (X+Y-Z)+(2+G) //Assume X=r1=2, Y=r2=5, Z=r3=10, G=r4=12
    b. (X&Y) | (~Z&G) //Assume X=r1=0x1f, Y=r2=0xff, Z=r3=0x25, G=r4=0x13
2. Write ARM assemble language program to perform 1's complement in the number stored in register r10
3. Write ARM assemble language program to perform 2's complement in the number stored in register r10