HOMEWORK 1

CMPE 102, Assembly Language Programming, Çokgör

Total points towards grade: 5/100

Homework are submitted electronically on Canvas. E-mail submissions will not be accepted. Homework must be in PDF (scanned will be accepted).

You need to show your work clearly and step-by-step to obtain credit. Work that is not demonstrated will not earn credit.

1) Show that the arithmetic operation -7 + (-30) represented in 2's complement representation gives the same result as the unsigned integer arithmetic operation 57 + 34 (assume a six-bit system, i.e. the register size is 6 bits). What are the values of the carry flag and overflow flag after the operation? (1 point)

2) Complete the following arithmetic operations. What are the values of the carry flag and overflow flag after each operation? (assume a six-bit system) (1 point)

- 31 + 13
- 14 – 18

3) What is the maximum positive number that can be represented by 16 bits in 2's complement representation? (0.5 points)

4) What is the minimum negative number that can be represented by 16 bits in 2's complement representation? (0.5 points)

5) Are the following statements true or false if the numbers are represented in 2's complement representation? (2 points)

- 00000 > 11111
- 10000 > 01111
- 11100 > 11101
- 00010 > 11001