

CSCI 255 – Intro to Embedded Systems
Homework #5
Fall 2013

Due: **9/25/2013** at the beginning of class

SHOW YOUR WORK

1. Perform the following additions:

- a) $111101010 + 1010011$
- b) $1110000100 + 1010001$
- c) $1000101 + 110010 + 10001111$
- d) $10001111 + 10101 + 111110$

2. Perform the following subtractions:

- a) $111101010 - 10011$
- b) $1110000100 - 1010001$
- c) $1000101 - 1111$
- d) $10001111 - 10101$

3. Perform the following divisions:

- a) $111101010 \div 1011$
- b) $1110000100 \div 101$
- c) $1000101 \div 110$
- d) $10001111 \div 1010$

4. For each, shift to the RIGHT by 3 and convert the result to BASE10:

- a) 111101010
- b) 1110000100
- c) 1000101
- d) 10001111

5. For each, shift to the LEFT by 3 and convert the result to BASE10:

- a) 111101010
- b) 1110000100
- c) 1000101
- d) 10001111

6. Perform the 1's complement for each and convert the result to its signed BASE10:

- a) 1111010000
- b) 1110010100
- c) 1000111001
- d) 1000111101

7. Perform the 2's complement for each and convert the result to its signed BASE10:

- a) 1111010000
- b) 1110010100
- c) 1000111001
- d) 1000111101