

# Digital Electronics and Computer Engineering (E85)

Fall 2014

## Problem Set 1

### 1) Textbook Problems

Do problems 2<sup>nd</sup> Edition: 1.6, 1.9, 1.14, 1.16, 1.68, 1.71, 1.75, 1.79, 1.80

### Number Systems

- a) Compute  $B_{16} + 2A_{16}$ . (This could also be written as  $0xB1 + 0x2A$ .) Interpret the numbers as 8-bit unsigned binary representation. Express the sum in hexadecimal, binary, and decimal.
- b) Compute the sum in part (a) when the numbers are interpreted as 8-bit two's complement representation. Write the result in hexadecimal, binary, and decimal.

### 2) Time

Please indicate how many hours you spent on this problem set. This will not affect your grade, but will be helpful for calibrating the workload for next semester's class.