

L5 practice problems

2's complement representation

1. The following are signed numbers in 8-bit 2's complement representation.

- a) 0010 0110
- b) 0111 1111
- c) 1000 0001
- d) 1111 1111

- (i) Rewrite the numbers in hexadecimal notation
- (ii) Determine their signed decimal values.

Arithmetic overflow

2. Determine whether arithmetic overflow occurs in each of the following 8-bit 2's complement arithmetic operations:

- a) $1110\ 0010 + 0100\ 0010$
- b) $0101\ 1000 - 1000\ 0010$
- c) $0111\ 1111 + 0000\ 0010$
- d) $1110\ 0001 - 1111\ 1101$

3. Repeat Q2 using hexadecimal digits.