



THE UNIVERSITY COLLEGE
OF THE CARIBOO

COMPUTING 253

Small Computer Systems: Organisation and
Architecture

Take Home Review – Numeric Representation
Integers

For completeness, **show your work** wherever possible.

1. **What is the maximum number of symbols that Unicode can describe?**
(ASCII uses 8 bits, whereas Unicode uses 16 bits.)

2. **Translate the octal value as hexadecimal. Using the hexadecimal value, convert back to decimal.**

$173_8 = \underline{\hspace{2cm}}_{16} = \underline{\hspace{2cm}}_{10}$

3. **Assume the word is representing a 2's comp. value. Translate it to decimal?** $\underline{\hspace{2cm}}_{10}$

8-bit word: 1 0 0 1 0 1 1 0

4. **Assume the word is representing an all-positive value.**
Is it possible to store the decimal value: 66321_{10} ?

16-bit word: 0 0 0 0 1 1 1 1 0 0 1 1 1 0 0 0