**Lecture 3 – Hexadecimal and Binary Addition**

Hexadecimal

* Radix r = 16
* Hexadecimal is shorthand for binary e.g., IEEE 802 MAC addresses: 94:28:A1:41:0A:3F instead o
* Grouping 4 binary bits equates to 1 digit of hexadecimal (and vice-versa)

Overflow

* Occurs when operation’s results are *out of range*
* Adding 7 + 9 in a 4-bit calculator

Binary Coded Decimal (BCD)

* Most computers use on binary, while humans use decimal numbers
* To translate, we
  + Convert from decimals to binary on input
  + Convert from binary to decimals on output
  + BCD is not translated