

CIS 351 Sample NR1 Problem Solutions

Mon 3rd Jan, 2022

NR1: Binary

Note: To receive credit, you *must* show your work.

(a) Convert 50 from decimal to binary: 110010

(b) Convert 101011 from binary to decimal: 43

(c) What is the range of integers that can be represented using 7 bits? 0 – 127

(d) How many bits are needed to store integers up to (*and including*) 47? 6 bits

(e) Write the next six successive binary numbers by using the binary counting pattern. Do *not* convert to decimal or any other number base. Add notes to the right documenting your thought process. (You need only enough notes to convince me that you didn't just convert to base 10 on a scratch sheet of paper.)

110101

_____	110110
_____	110111
_____	111000
_____	111001
_____	111010
_____	111011