Faculty of Computer & Information Sciences
Ain Shams University
CHW 261: Logic Design
Tutorial Sheets 2020-2021
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Tutorial 1

1) List the numbers from 8 to 28 in base 12.
2) What is the largest binary number that can be expressed with 16 bits? What are the equivalent decimal and hexadecimal numbers?
3) How many bits needed to represent 205 in binary? (guess number of bits without conversion)
4) What is the largest number (in decimal) that can be obtained with
   a. 7 bits binary
   b. 3 bits hexadecimal
5) Convert the following numbers with the indicated bases to decimal:
   a. $(10110.0101)_2$ b. $(121)_3$ c. $(345)_6$ d. $(77.7)_8$
   e. $(435)_8$ f. $(198)_{12}$ g. $(AC5)_{16}$ h. $(16.5)_{16}$

6) perform the following conversions
   a. $(28.125)_{10}$ to binary
   b. $(157.128)_{10}$ to hexadecimal
   c. $(67.45)_{10}$ to octal
   d. $(2AC5)_{16}$ to octal (without converting to decimal)
7) Perform the following addition without converting to decimal
   a. $(110110)_2 + (110101)_2$
   b. $(15F)_{16} + (A7)_{16}$
   c. $(35)_8 + (73)_8$
8) Perform the following multiplication
   a. $(367)_8 * (20)_8$
   b. $(b73)_{16} * (15)_{16}$