ENG-2410 Assignment #1

School of Engineering, University of Guelph
Fall 2025

Start Date: Week #1, Due Date: Week #2 (Friday, 5:00 PM) in Dropbox

Answer all questions. Show your steps!

1. **Convert** the following decimal numbers **to binary** (show your steps!):
   (a) $(273)_{10}$
   (b) $(441)_{10}$
2. **Convert** the following binary numbers **to decimal** (show your steps!):
   (a) $(1111110)_2$
   (b) $(11001111.01)_2$
3. **Convert** the following decimal numbers to the indicated bases (show your steps):
   (a) $(130.5)_{10}$ **to octal**
   (b) $(611.25)_{10}$ **to hexadecimal**
4. **Add** the following numbers (show your steps):
   (a) $(471)_8$ and $(255)_8$
   (b) $(4EC)_{16}$ and $(7B)_{16}$
   (c) $(1101011)_2$ and $(0111011)_2$.
5. Answer the following questions:
   (a) What is the exact number of bits in a memory that contains (a) 92K bits; (b) 256M bits; (c) 8G bits
   (b) Which bit should be complemented to change an **ASCII letter** (i.e., A, B, C) from uppercase to lowercase and vice versa?

Deliverable

- **Name your file** as follows: ENG2410_F25_Assignment1_LastNameFirstName.pdf
- **Write** your name, the course # and Term # on the first page of your submission (i.e solution).
- **Submit** a single PDF file of your solutions.
- **Upload** your PDF file in the Course Link dropbox on time.
- **Late** submissions are not accepted.
- **Multiple** PDF or JPEG/GIF submissions are **not accepted** and will not be graded!!.
- Your solution of the assignment will **not be accepted** via email.
- To **receive 100% of the mark** you should attempt all questions.
- Solutions to the assignment will be posted at 5:30 PM on Fridays.
- If you have any questions related to the assignment, please **contact your Teaching Assistant** responsible for your Tutorial Section.
- Failing to follow the instructions above will lead to a ZERO grade!!