

CSE260

Assignment 01

This assignment must be hand-written. Show ALL steps in ALL questions.

- Convert the following binary numbers to equivalent decimal numbers.
 - $(101110010001)_2$
 - $(11011.101)_2$
- Convert the following decimal number to equivalent binary numbers.
 $(4195)_{10}$
- Convert the following decimal number to equivalent hexadecimal numbers.
 $(513)_{10}$
- Perform the following base conversions
 - $(29)_{12} = (?)_7$
 - $(10110111)_5 = (?)_4$
- Perform addition, subtraction and multiplication for the pair of following base-9 numbers. Verify your results by converting the problem into decimal.
412
134
- Subtract 13 from 27 in 7 bits using 2's complement number system and justify whether there is an overflow or not.
- Add 13 with 27 in 6 bits using 2's complement number system and justify whether there is an overflow or not.
- Perform the following arithmetic operations using 10-bit two's complement and one's complement systems . State if there is an overflow in each case.
 - $91 - 499$
 - $379 + 98$
- You are a computer engineer and you want to buy two 8 GB DDR4 RAMs. Each RAM costs $(1C2)_{16}$ dollars. You also want to buy a graphics card RTX4070Ti which costs $(10010110000)_2$ dollars. You have $(4064)_8$ dollars in your bank account. How much will you have left after buying those components? (Show the answer in decimal)