CS1021 Tutorial 1

DON'T USE A PROGRAMMER CALCULATOR TO ANSWER THESE QUESTIONS

Q1 Convert the following 8 bit unsigned binary numbers to decimal (i) 01101001_2 (ii) 1000000_2 and (iii) 11111111_2.

Q2 Convert the following decimal numbers to 8 bit unsigned binary numbers (i) 79 (ii) 44 and 126.

Q3 Convert the following 8 bit signed binary numbers to decimal (i) 01101001_2 (ii) 10010110_2 and (iii) 11110000_2.

Q4 Convert the following decimal numbers to 8 bit signed binary numbers (i) 79 (ii) -44 and -126.

Q5 Convert the following 8 bit binary numbers to hexadecimal (i) 01101101_2 (ii) 10110000_2 and (iii) 10100111_2.

Q6 Convert the following hexadecimal numbers to 16 bit binary numbers (i) 0xCAFE (ii) 0xFADE and (iii) 0xBEEF

Q6 Convert the following decimal numbers to 16 bit unsigned hexadecimal numbers (i) 51,966 (ii) 64,222 and (iii) 48,879

Q7 Convert the following 16 bit unsigned hexadecimal numbers to decimal (i) 0xABCD (ii) 0xF000 and (iii) 0x0FFF

Q8 Convert the following 16 bit signed hexadecimal numbers to decimal (i) 0xABCD (ii) 0xF000 and (iii) 0x0FFF.

Q9 Calculate and convert the hexadecimal numbers and answers to decimal assuming 16 bit unsigned and signed integers (i) 0x1234 + 0xAAAA (ii) 0x468A + 0xAAAA (iii) 0xAAAA – 0x1234 and (iv) 0x7AAA – 0x6BBB

Q10 Convert the following unsigned binary numbers to decimal (i) 1010.00101_2 and (ii) 0.1001_2.