CS2410-Worksheet

Conversion

1. Complete the following table of equivalent values. Ensure you show all working.

Binary	Octal	Decimal	Hexadecimal
			AD
		175	
	5657		
1011101010			

2. Convert the following to binary, octal and hexadecimal.
   a. 552_6
   b. 242_5

3. Find the binary equivalent of the following decimal numbers:
   a. 640
   b. 1233
   c. 77

4. Find the decimal equivalent of the following binary numbers:
   a. 110011101
   b. 11110001
   c. 00011101

5. Convert the following the following hexadecimal numbers to binary:
   a. CB3
   b. FACE
   c. DA0F
   d. 9A58

6. Convert the following the following octal numbers to hexadecimal:
   a. 76
   b. 154
   c. 77
   d. 1001

Arithmetic

1. Perform the following operations in **Octal and Hexadecimal**
   a. $AB05_{16} - 4AB1_{16}$
   b. $AB05_{16} + 4AB1_{16}$
   c. $94_{16} - 5C_{16}$
   d. $FA4_{16} + CAD_{16}$
   e. $4F_{16} + 2B_{16}$
   f. $245_{10} * 2C_{16}$
   g. $245_{10} * 1A_{16}$
   h. $67_8 * 45_8$
   i. $15_7 * 23_4$

Binary Arithmetic

Perform the following binary additions:

i. $1101_2 + 1010_2$ _____ ii. $10111_2 + 01101_2$ _____

Perform the following binary subtractions:

i. $1101_2 - 0100_2$ _____ ii. $10001_2 - 01101_2$ _____

Perform the following binary multiplications:

i. $1101_2 \times 1110_2$ _____

ii. $10111_2 \times 101_2$ _____