



Κατ' όικον Εργασία 1

1. How many bits of memory would be found in a personal computer that has the following system memory sizes?
 - (a) 16MB
 - (b) 64MB
 - (c) 6.4GB
2. What is the decimal equivalent of the largest binary integer that can be obtained with:
 - (a) 11 bits
 - (b) 25 bits
3. Convert the following decimal numbers to binary:
 - (a) 193
 - (b) 751
 - (c) 2007
 - (d) 19450
4. Convert the following binary numbers to decimal:
 - (a) 1101.0110
 - (b) 1001.0011
 - (c) 0101.1001
5. Convert the following hexadecimal numbers into binary form and then find the equivalent decimal value:
 - (a) 1F20
 - (b) 0ABC
 - (c) 70D2
 - (d) 86BA
6. Add and multiply the following numbers without converting them to decimal:
 - (a) Binary numbers 1011 and 101
 - (b) Hexadecimal numbers 2E and 34.
7. Subtract and multiply the following numbers without converting to decimal:
 - (a) $(317)_8$ and $(256)_8$
 - (b) $(2EC)_{16}$ and $(7B)_{16}$
 - (c) $(110011)_2$ and $(101011)_2$
8. Represent the decimal numbers 694 and 835 in BCD, and then show the steps necessary to form their sum.
9.
 - (a) List the 6-bit binary number equivalents for 32 through 47 with a parity bit added in the rightmost position, giving odd parity to the overall 7-bit numbers.
 - (b) Repeat for even parity.
10. A computer represents information in groups of 32 bits. How many different integers can be represented in:
 - (a) binary
 - (b) BCD
 - (c) 8-bit ASCII

Use 32 bits for all three cases.