

HW1

1. Convert the following numbers from the given base to other three bases listed in the table: (36%)

Decimal	Binary	Octal	Hexadecimal
726.34	?	?	?
?	1110101.101	?	?
?	?	43.1	?
?	?	?	F4.D

2. Convert the hexadecimal number F61A directly to binary number, and then convert it from binary to octal directly. (10%)
3. What is the exact number of bytes in a system that contains (a) 64K bytes and (b) 1.5G bytes? (10%)
4. Write the expression "Logic Design" in ASCII using an eight-bit code including the space. Treat the leftmost bit of each character as a parity bit. Each 8-bit code should have even parity. (10%)
5. A 12-bit number is 101010110111. What is its content if it represents (a) three decimal digits in BCD? (b) three decimal number in the Excess-3 code? (10%)
6. If you have 20 books and want to give each book a unique id with a binary number. If we want to use as least as possible the number of bits as the id, how many bits do you need? (5%)
7. Represent your student ID number in BCD form. (9%)
8. Find the Gray code with 14 code numbers. (10%)