



Chapter 2

>PLC Hardware Components





Table 3-1	Number	System Comparis	sons
Decimal	Octal	Hexadecimal	Binary
0	. 0	0	0
1	. 1	1	1
2	. 2	2	10
3	. 3	3	11
4	. 4	4	100
5	. 5	5	101
6	. 6	6	110
7	. 7	7	111
8	. 10	8	. 1000
9	. 11	9	. 1001
10	. 12	A	. 1010
11	. 13	В	. 1011
12	. 14	C	. 1100
13	15	D	1101
14	. 16	F	. 1110
15	17	F	. 1111
16	20	10	10000
17	. 20	11	10001
10	. 21	10	10010
10	. 22	12	10010
19	. 23	44	10100
20	. 24	14	. 10100

➤ Table shows a comparison among four common number systems: decimal (base 10), hexadecimal (base 16), and binary (base 2). No numbering systems start at zero





- > PLC memory is organized using bytes, single words, or double words.
- Older PLCs use 8-bit or 16-bit memory words while newer systems, such as the ControlLogix platform from Allen-Bradley, use 32-bit double words.
- ➤The size of the programmable controller memory relates to the amount of user program that can be stored.
- ➢If the memory size is 1 K word , it can store 1024 words or 16,384 (1024 * 16) bits of information using 16- bit words, or 32,768 (1024 * 32) bits using 32-bit words.















Controlling One Light from two Locations

Create, enter and test a program which will perform the common electrical function of controlling a light from two different locations. Clear your program and utilize toggle switch (I:1/00) and changed state switch (I:1/01) to control Lamp (O:2/00)... (Hint: If both switches are On or if both switches are Off, then the Lamp should be On! This of course is just one approach to solving this problem)