

Binary coded decimals



Characteristics

1. Usage: digital devices interfaces
2. Encodes decimal digits
3. 4 bits are required for 10 digits:
$$2^3 < 10 < 2^4$$
4. Requires correction in arithmetic operations

	Weighted		Unweighted	
	8421(BCD)	2421	Gray	2 din 5
0	0000	0000	0000	000 11
1	0001	0001	0001	00 101
2	0010	0010	0011	00 110
3	0011	0011	0010	0 1001
4	0100	0100	0110	0 1010
5	0101	1011	0111	0 1100
6	0110	1100	0101	10001
7	0111	1101	0100	10010
8	1000	1110	1100	10100
9	1001	1111	1101	11000

Example: Representation of the number 9427 in binary and in code 8421

In binary :

10010011010011 (14 division by 2)

În 8421:

1001 0100 0010 0111 (substitution)

9 4 2 7

Examples

	8	7	-2	-4
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				

	3	3	2	1
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				

	8	4	3	-2
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				

	4	2	2	1
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				