Number Conversion From one Number System to Another

Numbers of one number system can be represented in another number system. It is possible to convert a Binary number to Decimal number system. The Number Chart given above shows the equivalent values of some Decimal numbers in Binary number system.

In the next section, we look into how to convert a number from Decimal to Binary and from Binary to Decimal.

CONVERSION FROM DECIMAL TO BINARY

To convert an integer decimal number to binary, divide the decimal number continuously by 2. The corresponding binary number can be obtained by tracing the remainders in **reverse order.**

The following examples show the method.

Example 1. $(10)_{10} = (?)_2$

2	10	0
2	5	1
2	2	0
2	1	1
2	0	

The corresponding binary number is the remainders in **reverse order**.

Thus $(10)_{10} = (1010)_2$

Example 2. $(14)_{10} = (?)_2$

2	14	0
2	7	1
2	3	1
2	1	1
2	0	

$(14)_{10} = (1110)_2$

Example 3. $(19)_{10} = (?)_2$

2	19	1
2	9	1
2	4	0
2	2	0
2	1	1
	0	

$(19)_{10} = (10011)_2$

Example 4. $(24)_{10} = (?)_2$

2	24	0
2	12	0
2	6	0
2	3	1
2	1	1
	0	

$(24)_{10} = (11000)_2$

Example 5. $(38)_{10} = (?)_2$

2	38	0
2	19	1
2	9	1
2	4	0
2	2	0
2	1	1
2	0	

$(38)_{10} = (100110)_2$

Example 6. $(45)_{10} = (?)_2$

2	45	1
2	22	0
2	11	1
2	5	1
2	2	0
2	1	1
	0	

$(45)_{10} = (101101)_2$

Example 7. $(67)_{10} = (?)_2$

2	67	1
2	33	1
2	16	0
2	8	0
2	4	0
2	2	0
2	1	1
2	0	

$(67)_{10} = (1000011)_2$

Example 8. $(100)_{10} = (?)_2$

2	100	0
2	50	0
2	25	1
2	12	0
2	6	0
2	3	1
2	1	1
2	0	

$(100)_{10} = (1100100)_2$

Example 9. $(53)_{10} = (?)_2$

2	53	1
2	27	1
2	13	1
2	6	0
2	3	1
2	1	1
2	0	

$(53)_{10} = (110111)_2$

Example 10. $(124)_{10} = (?)_2$

2	124	0
2	62	0
2	31	1
2	15	1
2	7	1
2	3	1
2	1	1
2	0	

$(100)_{10} = (1111100)_2$