

Decimal to Binary conversion

a) 23.75_{10}

23_{10}

2	23	1
2	11	1
2	5	1
2	2	1
1	0	0

$23_{10} \Rightarrow 10111$

0.75_{10}

0.75×2	$1 + 0.5$
0.5×2	1

$0.75_{10} \Rightarrow 0.11_2$

$23.75_{10} \Rightarrow 10111.11_2$

Number:

23.75

From base:

10 (decimal)

To base:

2 (binary)

Convert

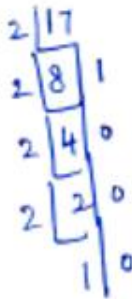
Reset

Swap

Result number:

10111.11

b) 17.25_{10}



$17_{10} \Rightarrow 10001_2$

$.25_{10}$

$$.25 \times 2 \Rightarrow 0 + 0.5$$

$$.5 \times 2 \Rightarrow 1 + 0$$

$$.25_{10} \Rightarrow .01_2$$

$$17.25_{10} \Rightarrow 10001.01_2$$

Number:

17.25

From base:

10 (decimal)

To base:

2 (binary)

↻ Convert

✖ Reset

↔ Swap

Result number:

10001.01

c) 4.3_{10}

$$\begin{array}{r} 2 \overline{) 4} \\ 2 \overline{) 2} 0 \\ 1 \overline{) 0} \end{array}$$

$$4.3_{10} \Rightarrow 100.010011_2$$

$$\underline{.3_{10}}$$

$$.3 * 2 \Rightarrow 0 + 0.6$$

$$0.6 * 2 \Rightarrow 1 + 0.2$$

$$0.2 * 2 \Rightarrow 0 + 0.4$$

$$0.4 * 2 \Rightarrow 0 + 0.8$$

$$0.8 * 2 \Rightarrow 1 + 0.6$$

$$0.6 * 2 \Rightarrow 1 + 0.2$$

Number:

4.3

From base:

10 (decimal)

To base:

2 (binary)

Convert

Reset

Swap

Result number:

100.01001100110011001101

Binary to Decimal

9) 1101.111_2

$$\begin{array}{ccccccc} 1 & 1 & 0 & 1 & . & 1 & 1 & 1 \\ 2^3 & 2^2 & 2^1 & 2^0 & & 2^{-1} & 2^{-2} & 2^{-3} \end{array}$$

$$8 + 4 + 0 + 1 + 0.5 + 0.25 + 0.125$$

$$13 + 0.875$$

$$13.875_{10}$$

$$\boxed{1101.111_2 \Rightarrow 13.875_{10}}$$

Number:

1101.111

From base:

2 (binary)

To base:

10 (decimal)

Convert

Reset

Swap

Result number:

13.875

b)

100.001₂

$$\begin{array}{ccccccc} 1 & 0 & 0 & . & 0 & 0 & 1 \\ 2^2 & 2^1 & 2^0 & & 2^{-1} & 2^{-2} & 2^{-3} \end{array}$$

$$4 \cdot (0.125)$$

$$(100.001)_2 \Rightarrow 4.125_{10}$$

Number:

100.001

From base:

2 (binary)

To base:

10 (decimal)

↻ Convert

✖ Reset

↔ Swap

Result number:

4.125

Decimal to Binary, octal and Hexadecimal form

a) 97_{10}

Binary

2	97	
2	48	1
2	24	0
2	12	0
2	6	0
2	3	0
	1	1

$97_{10} \Rightarrow (1100001)_2$

Octal

8	97	
8	12	1
	1	4

$97_{10} \Rightarrow (141)_8$

Hexa-decimal

16	97	
	6	1

$97_{10} \Rightarrow (61)_{16}$

Number:

From base:

To base:

Result number:

Number:

From base:

To base:

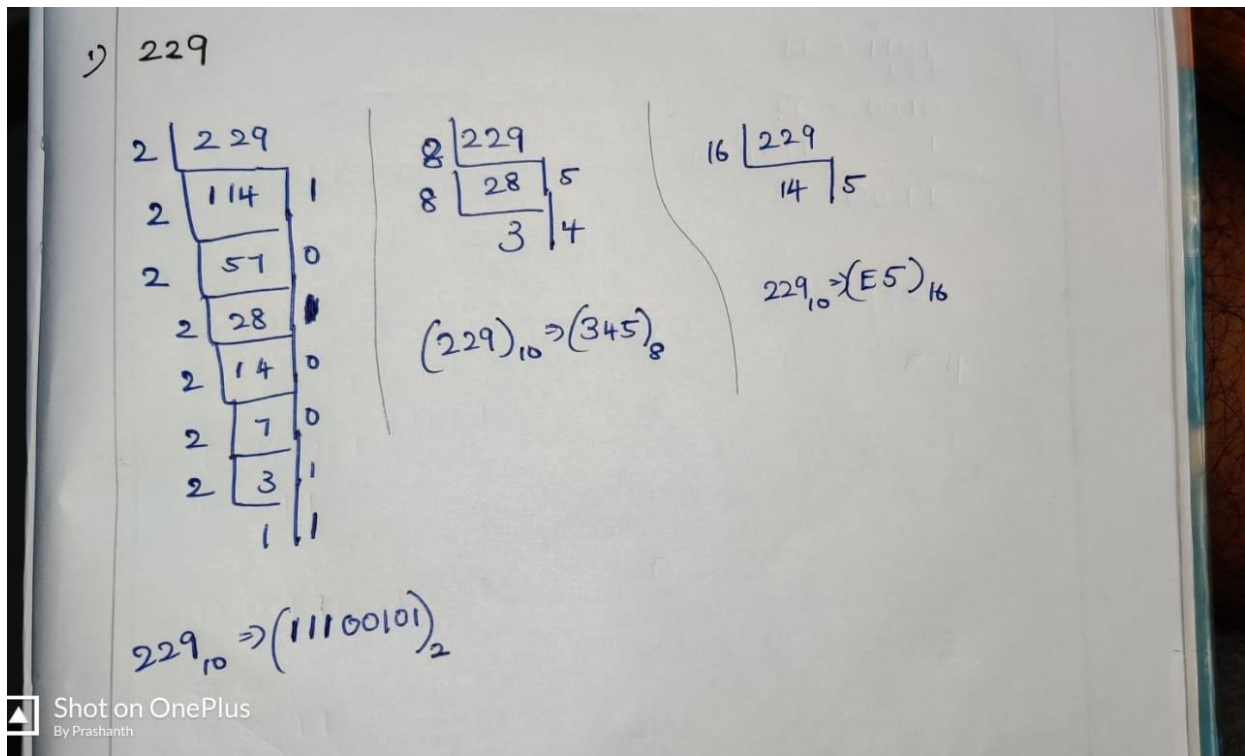
Result number:

Number:

From base:

To base:

Result number:



Number: 229

From base: 10 (decimal)

To base: 16 (hex)

Convert Reset Swap

Result number: E5

Number: 229

From base: 10 (decimal)

To base: 2 (binary)

Convert Reset Swap

Result number: 11100101

Number: 229

From base: 10 (decimal)

To base: 8 (octal)

Convert Reset Swap

Result number: 345