

Practical - 1

1. 1056_{16}
 \downarrow
 $(?)_2$

1	0	5	6
8421	8421	8421	8421
0001	0000	0101	0110

$0001\ 0000\ 0101\ 0110$

001	000	001	010	110
\downarrow	\downarrow	\downarrow	\downarrow	\downarrow
1	0	1	2	6

$(10126)_8$

2. $(11672)_8 \rightarrow (?)_{16}$

1	1	6	7	2
001	001	110	111	010

001001110111010

001	0011	1011	1010
\downarrow	\downarrow	\downarrow	\downarrow
1	3	11	10

$(13BA)_{16}$

3. $(12724)_8 \rightarrow (?)_{10}$

2	7	2	4
010	111	010	100

010111010100

$0 \times 2^0 = 0$

$0 \times 2^1 = 0$

$1 \times 2^2 = 4$

$0 \times 2^3 = 0$

$1 \times 2^4 = 16$

$0 \times 2^5 = 0$

$1 \times 2^6 = 64$

$1 \times 2^7 = 128$

$1 \times 2^8 = 256$

$0 \times 2^9 = 0$

$1 \times 2^{10} = 1024$

$0 \times 2^{11} = 0$

1492_{10}

4. $(3211)_4 \rightarrow (?)_5$

$3211 \div 2$

$1 \times 4^0 = 1$

$1 \times 4^1 = 4$

$2 \times 4^2 = 32$

$3 \times 4^3 = 192$

$(229)_{10}$

\downarrow
 $(?)_5$

$$\begin{array}{r|rr|r}
 5 & 229 & & \\
 \hline
 5 & 45 & & 4 \\
 \hline
 5 & 9 & & 0 \\
 \hline
 5 & 1 & & 4 \\
 \hline
 & 0 & & 1
 \end{array}$$

$$\rightarrow (1404)_5$$

$$5. (1001001100)_2 = (?)_{16}$$

$$0 \times 2^0 = 0$$

$$0 \times 2^1 = 0$$

$$1 \times 2^2 = 4$$

$$1 \times 2^3 = 8$$

$$0 \times 2^4 = 0$$

$$0 \times 2^5 = 0$$

$$1 \times 2^6 = 64$$

$$0 \times 2^7 = 0$$

$$0 \times 2^8 = 0$$

$$1 \times 2^9 = 512$$

$$(588)_{16}$$

$$\begin{array}{r|rr|r}
 6 & 588 & & \\
 \hline
 6 & 98 & & 0 \\
 \hline
 8 & 16 & & 2 \\
 \hline
 6 & 2 & & 4 \\
 \hline
 & 0 & & 2
 \end{array}$$

$$\rightarrow (2420)_6$$