

$$1) 2062_{10} = 1111010010_2$$

$$1001_{10} = 1111101001_2$$

~~1001~~

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|
| 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

$$0: 1$$

$$1: 1+0=1$$

$$2: 1+0+0=1$$

$$3: 1+0+0+0=1$$

$$4: 1+0+0+0+0=1$$

$$5: 1+0+0+0+0+0=0$$

$$11111010010_2 = 2062_{10}$$

$$2) 274_{10} = 1000100010_2$$

$$137_{10} = 10001001_2$$

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

$$0: 1$$

$$2: 0$$

$$4: 1$$

$$6: 0$$

$$8: 0$$

$$1: 0$$

$$3: 0$$

$$5: 0$$

$$7: 1$$

$$1000100010_2 = 274_{10}$$

$$3) 30_{10} = 11110_2$$

$$15_{10} = 1111_2$$

$$\begin{array}{r} 11110 \\ 1111 \\ \hline 10001 \\ 01234 \end{array}$$

$$0:1 \quad 2:1 \quad 4:0$$

$$1:1 \quad 3:1 \quad 11110_2 = 30_{10}$$

$$4) 13_{10} = 1101_2$$

$$6_{10} = 110_2$$

$$\begin{array}{r} 1101 \\ 0110 \\ \hline 1011 \\ 0123 \end{array}$$

$$0:1 \quad 2:0$$

$$1101_2 = 13_{10}$$

$$1:1 \quad 3:1$$