

|  |  |  |  |  |
|--|--|--|--|--|
| $\begin{pmatrix} 0 & 1 \\ 1 & 3 \end{pmatrix}$ |  | $\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix}$ | $\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix}$ | $\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix}$ |
| $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ | $\begin{pmatrix} 1 & 1 \\ 1 & 1 \end{pmatrix}$ |  |  |  |

$O_3 =$

$\begin{pmatrix} i_3 & i_2 & i_1 \end{pmatrix}$

$+ \begin{pmatrix} i_3 & i_2 & i_0 \end{pmatrix}$

$+ \begin{pmatrix} i_3 & i_2 & i_1 \end{pmatrix}$

$O_2$

| $i_3 \ i_2 \ / \ i_1 \ i_0$ | 00 | 01 | 11 | 10 |
|-----------------------------|----|----|----|----|
| 00                          |    | 1  | 1  | 1  |
| 01                          | 1  |    |    |    |
| 11                          |    |    |    |    |
| 10                          |    | 1  |    |    |

$$O_2 = \overline{i_3} \ i_2 \ \overline{i_1} \ \overline{i_0} + \overline{i_2} \ \overline{i_1} \ i_0 + \overline{i_3} \ \overline{i_2} \ i_1$$

$$O_1 = \overline{i_2} \ \overline{i_1} \ i_0 + \overline{i_3} \ \overline{i_1} \ i_0 + \overline{i_3} \ i_1 \ \overline{i_0}$$

$$O_0 = i_0 \ \overline{i_3} + i_0 \ \overline{i_1} \ \overline{i_2}$$

$i \rightarrow 6$  bit; is 6

$$2^6 = 64 \rightarrow i / 10 = 6$$

$i$  3 bit;  $0 \rightarrow 7$

$$i = 4k - 1$$

$$k = 1, 2$$

$$i = 3, 7$$

011 111

6 bit;

is 6

16 8 4 2  
1111

~~15~~ 31  
61

60 ... 63  $\rightarrow 1$

1

0 --- 59  $\rightarrow 0$

62

10

63 11

|    |   |
|----|---|
| 60 | 2 |
| 30 |   |
| 15 |   |
| 7  |   |
| 3  |   |
| 1  |   |

0 1 1 1 1 0 0  
2 2 2 2 2

$$32 + 16 + 8 + 4$$