

# Left-Right Binary Exp.

$$P(2) = ? \quad a^{p(2)}$$

$$I = 3 \quad 2 \quad 1 \quad 0$$
$$B = 1 \quad 1 \quad 0 \quad 1$$

$$p(1) = a^1$$

$$i = I - 1$$

$$i = 2 \rightarrow p = 2p + b_i \quad b_i = 1$$

$$I = 3$$
$$p = 2 \cdot 1 + 1$$
$$= 3$$

Right to Left

$a^n \rightarrow$  hasplernu k tson

$$Q^n = \sigma^{b_I 2^I + \dots + b_1 2^1 + \dots + b_0} \quad i = I-1$$

$$= \sigma^{b_I 2^I} \dots \sigma^{b_1 2^1} \dots \sigma^{b_0 2^0} \rightarrow \text{baslänge: } \text{deser}^0 = 1 = a \text{ eben}$$

$$a^{2^i} = \left( a^{\frac{2^i}{2}} \right) = \left( a^{2^{i-1}} \right)^2$$

$$Q^{b_i 2^i} = ? \rightarrow \begin{cases} a^{2^{i-1}} \\ 1 \end{cases} \quad \begin{matrix} b_i = 1 \\ b_i = 0 \end{matrix}$$

$$\text{if } \begin{matrix} b_0 = 1 & \text{ise} & p = a \\ b_0 = 0 & \text{ise} & p = 1 \end{matrix}$$

~~8~~  $\rightarrow ? \rightarrow$ 

1	0	0	0	$\rightarrow ?$
	2	1	0	

 $\rightarrow w_0 = 0$  obs:  $p = 1$

$i = 1$  iter  $\rightarrow t = a \cdot a \rightarrow a^2$

$i = 2$  iter  $\rightarrow t = t \cdot t \rightarrow a^2 \cdot a^2 = a^4$

$i = 3$  iter  $\rightarrow t = t \cdot t \rightarrow a^4 \cdot a^4 = a^8$

~~13~~  $\rightarrow ? \rightarrow$ 

1	1	0	1
3	2	1	0

 $\rightarrow w_0 = 1$  iter  $p = a$

log