

## 202103151422温家伟 作业二

11.

$$\begin{aligned}
 (1) \quad G_1 &= G_1 + P_1 C_0 & (G_1 = A_1 B_1 \quad P_1 = A_1 \oplus B_1) \\
 G_2 &= G_2 + P_2 C_1 & (G_2 = A_2 B_2 \quad P_2 = A_2 \oplus B_2) \\
 G_3 &= G_3 + P_3 C_2 & (G_3 = A_3 B_3 \quad P_3 = A_3 \oplus B_3) \\
 G_4 &= G_4 + P_4 C_3 & (G_4 = A_4 B_4 \quad P_4 = A_4 \oplus B_4)
 \end{aligned}$$

$$(2) \quad G = G_1 + P_1 C_0$$

$$G_2 = G_2 + P_2 G_1 + P_2 P_1 C_0$$

$$G_3 = G_3 + P_3 G_2 + P_3 P_2 G_1 + P_3 P_2 P_1 C_0$$

$$G_4 = G_4 + P_4 G_3 + P_4 P_3 G_2 + P_4 P_3 P_2 G_1 + P_4 P_3 P_2 P_1 C_0$$

$$9. (1) \quad X: 11101 \quad 00.100101 \quad \text{非0}$$

$$Y: 11110 \quad 11.100010 \quad \text{非0}$$

$$\Delta E = E_x - E_y = [E_x]_{\text{补}} + [-E_y]_{\text{补}} = 11101 + 00010 = 11111$$

$$\Delta E = -1 \quad E_x < E_y \quad \text{小阶向大阶看齐}$$

$$X: 11110 \quad 00.010010 (1)$$

$$Y: 11110 \quad 11.100010$$

$$X+Y \quad 00.010010 (1)$$

$$11.100010$$

$$11.110100 (1)$$

$$\text{规格化} \quad 11.010010 \quad \text{阶} = 11100$$

$$\text{阶: } 11.010010 \times 2^{11100} \quad \text{阶} = 0.101110 \times 2^{-4}$$

$$X-Y = X_{\text{补}} + [-Y]_{\text{补}}$$

$$00.010010 (1)$$

$$00.011110$$

$$00.110000 (1)$$

规格化:  $0.110000$  阶码  $11110$

$$x-y = 0.110001 \times 2^{-2}$$

12)  $x: 11.101010$  阶:  $11011$  非0

$y: 10.010110$  阶:  $11100$  非0

$$\Delta E = 11011 - 11100 = 11011 + 00100 = 11111 \quad \Delta E = -1$$

$E_x < E_y$  小阶向大阶看齐  $E_x$  小  $M_x$  右移一位

$x: 1.110101(0)$  阶  $11100$

$x+y$   $11.110101(0)$

$+ 00.010110$

$00.001011(0)$

规格:  $50.101100$  阶  $11010$   $x+y = 0.101100 \times 2^{-6}$

$$x-y = x + [-y]$$

$11.110101(0)$

$11.101010$

$11.011111(0)$

规格: 阶  $11100$  尾  $11.011111(0)$

$$x-y = -0.100001 \times 2^{-4}$$