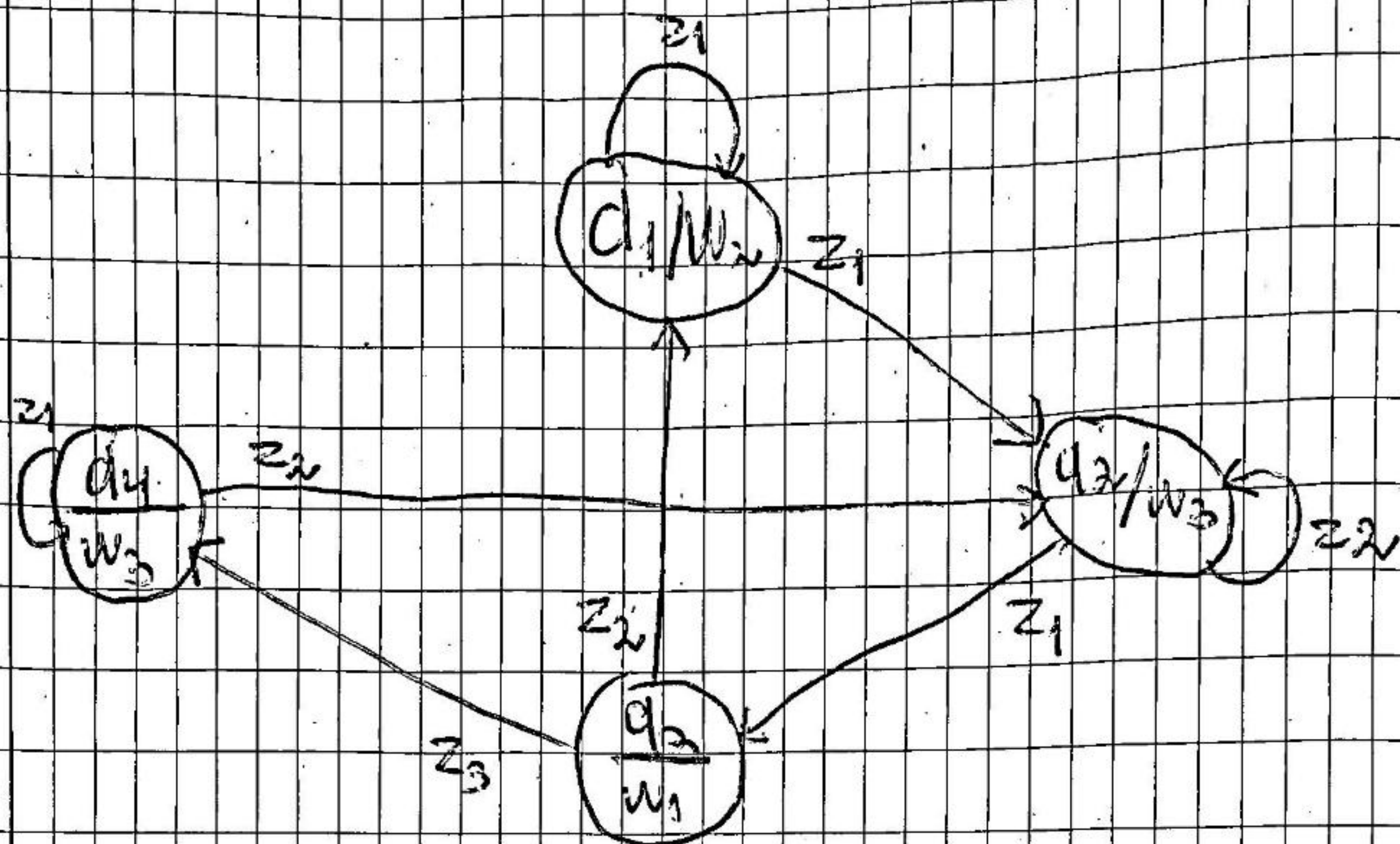


Заг 1. Даден е следният абстрактен автомат



а) Може ли този автомат да функционира като асинхронен?

Автоматът НЕ може да функционира като асинхронен, защото състоянието q_2 е неустойчиво спрямо въздействието z_1 .

б) КНС в базис U -НЕ
 бр ва сигнали $= X \geq \log_2 3 \approx 2 \Rightarrow x_1$ и x_2

изс. сигнали $Y \geq \log_2 3 \approx 2 \Rightarrow y_1$ и y_2

тригери $Q \geq \log_2 4 \approx 2 \Rightarrow q_1$ и q_2

Ү Kodirаниги таблицы

	x_1	x_2	y_1	y_2		Q_1	Q_2
z_1	0	0	w_1	0	a_1	0	0
z_2	0	1	w_2	0	a_2	0	1
z_3	1	0	w_3	1	a_3	1	0
					a_4	1	1

Дополнительные таблицы

a_i	Q_1	Q_2	Z^t	x_1	x_2	w^t	y_1	y_2	d^{t+1}	Q_1	Q_2	R_1	S_1	R_2	S_2
a_1	0	0	z_1	0	0	w_1	0	0	a_1	0	0	*	0	*	0
			z_2	0	0	w_2	0	1	a_2	0	1	*	0	0	1
a_2	0	1	z_2	0	1	w_3	1	0	a_2	0	1	*	0	0	*
			z_1	0	0				a_3	1	0	0	1	1	0
a_3	1	0	z_2	0	1	w_1	0	0	a_1	0	0	1	0	*	0
			z_3	1	0				a_4	1	1	0	*	0	1
a_4	1	1	z_1	0	0	w_3	1	0	a_4	1	1	0	*	0	*
			z_2	0	1				a_2	0	1	1	0	0	*

Импликанты

$$y_1 = \overline{Q_1} Q_2 + Q_1 + Q_2 = Q_2$$

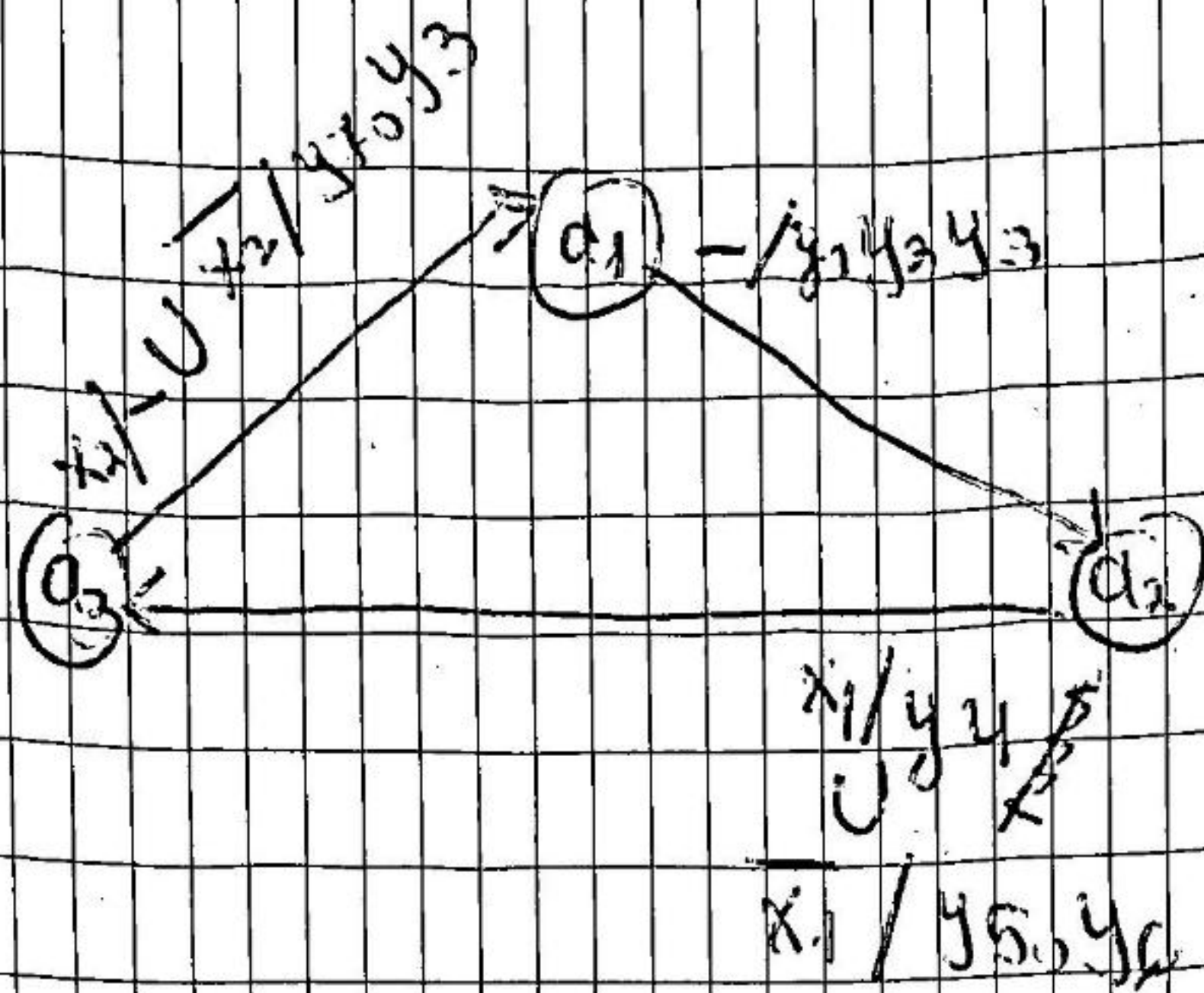
$$y_2 = \overline{Q_1} Q_2$$

$$R_2 = \overline{Q_1} Q_2 \overline{x_1} \overline{x_2}$$

$$S_2 = \overline{Q_1} Q_2 \overline{x_1} \overline{x_2} + Q_1 Q_2 x_1 x_2 = \overline{Q_1} \overline{x_1}$$

$$R_1 = \overline{Q_1} Q_2 \overline{x_1} x_2 + Q_1 Q_2 \overline{x_1} x_2 = Q_1 \overline{x_1} x_2$$

$$S_1 = \overline{Q_1} Q_2 \overline{x_1} \overline{x_2}$$



$$Q \approx 100, 3 \times 10^3 \Rightarrow Q_1, Q_2$$

	Q_1	Q_2
a_1	0	0
a_2	0	1
a_3	1	0

at	Q_1	Q_2	x	y	a^{st}	Q_1	Q_2	D_1	D_2
a_1	0	0	-	y_1	a_2	0	1	0	1
				y_2					
				y_3					
a_2	0	1	$\frac{x_1}{x_1}$	y_4	a_3	1	0	1	0
				y_5, y_6	a_3	1	0	1	0
a_3	1	0	$\frac{x_2}{x_2}$	-	a_1	0	0	0	0
				y_7, y_8	a_1	0	0	0	0

$$y_1 = y_3 = \overline{Q_1} \overline{Q_2} = p_1$$

$$y_3 = \overline{Q_1} \overline{Q_2} + \overline{Q_1} \overline{Q_2} x_2 = \overline{Q_1} \overline{Q_2} (1 + x_2) = p_1 + p_2$$

$$y_4 = \overline{Q_1} \overline{Q_2} x_1 = p_3$$

$$y_5 = y_6 = \overline{Q_1} \overline{Q_2} x_1 = p_4 \quad y_7 = \overline{Q_1} \overline{Q_2} x_2 = p_5$$

$$D_1 = \overline{Q_1} \overline{Q_2} x_1 + \overline{Q_1} \overline{Q_2} x_1 = \overline{Q_1} \overline{Q_2} = p_5$$

$$D_2 = \overline{Q_1} \overline{Q_2} = p_1$$

