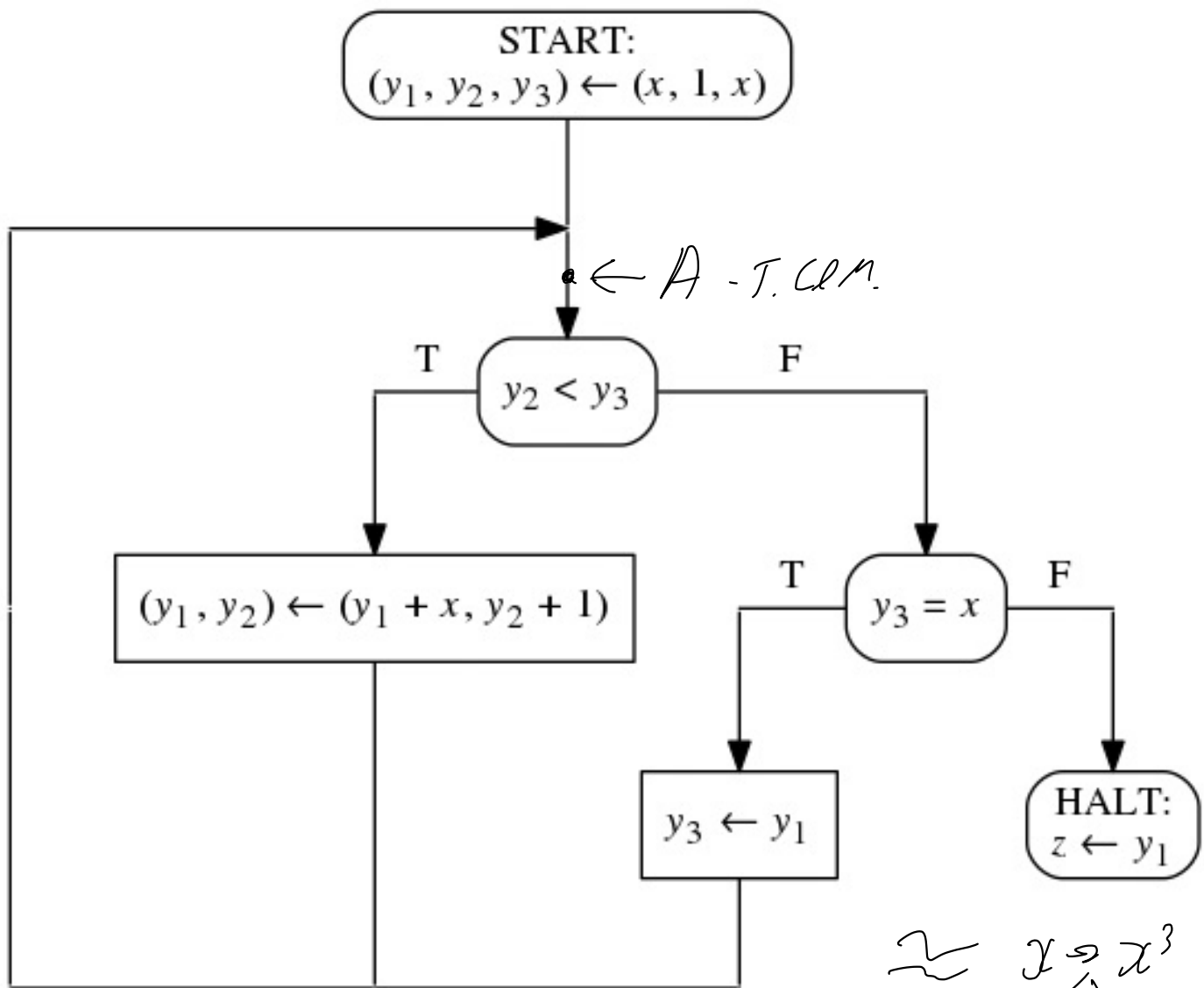




Задача 1.3
 $D_{\overline{1}} = D_{\overline{2}} = D_{\overline{3}} = \mathbb{Z}$

$$V = \{ x, y_1, y_2, y_3, z \}$$

$$\phi(x) \equiv x > 1$$



$$\approx x \rightarrow x^3$$

$$\downarrow$$

$$x \cdot x + 0.171717$$

$$S \rightarrow A: x > 1 \Rightarrow P_A(x, x, 1, x)$$

$$A \xrightarrow{I} A: x > 1 \wedge P_A(x, y_1, y_2, y_3) \wedge (y_2 < y_3) \Rightarrow$$

$$\Rightarrow u_A(x, y_1 + x, y_2 + 1, y_3) < u_A(x, y_1, y_2, y_3)$$

$$A \xrightarrow{T} A: x > 1 \wedge P_A(x, y_1, y_2, y_3) \Rightarrow u_A(x, y_1, y_2, y_3) \in$$

$$\in \omega$$

$$A \xrightarrow{FT} A: (x > 1) \wedge P_{\neq}(x, y_1, y_2, y_3) \wedge \underbrace{y_2 \geq y_3 \wedge y_3 \neq x}_{y_2 = y_3} \rightarrow$$

$$\rightarrow u_A(x, y_1, y_2, y_3) < u_A(x, y_1, y_2, y_3)$$

$$A \xrightarrow{FT} A_{cub} : x > 1 \wedge P_A(x, y_1, y_2, y_3) \rightarrow$$

$$u_A(x, y_1, y_2, y_3) \in W$$

$$W = \{N, >\}$$

$$P_A(y_1 = y_2 \cdot x) \wedge ((y_3 = x) \wedge (y_2 \leq x)) \vee (y_3 = x \wedge x \leq y_2 \leq x^2)$$

$$\exists u_A = (2x^2 - y_2 - y_3) \geq 0$$

$$A \xrightarrow{T} A_{sub} : x > 1 \wedge (y_1 = y_2 \cdot x) \wedge ((y_3 = x \wedge y_2 \leq x) \vee$$

$$\vee (y_3 = x^2 \wedge x \leq y_2 \leq x^2)) \rightarrow 2x^2 - (y_2 + 1) - y_3 < 2x^2 - y_2 - y_3$$

$$A \xrightarrow{FT} A_{sub} : x > 1 \wedge P_A \wedge y_2 \geq y_3 \wedge y_3 = x \rightarrow$$

$$\rightarrow 2x^2 - y_2 - y_3 < 2x^2 - y_2 - y_3 \quad (x > 1)$$

$$y_3 < y_2 x \Rightarrow x < y_2 x \Rightarrow y_2 > 1$$

$$A \xrightarrow{T} A_{cub} : (x > 1) \wedge (y_1 = y_2 \cdot x) \wedge ((y_3 = x) \wedge (y_2 \leq x) \wedge (y_3 = x) \wedge (x \leq y_2 \leq x^2))) \rightarrow 2x^2 - y_2 - y_3 \in W$$



$$A \xrightarrow{EI} A_{cyy} : (x > 1) \wedge (y_1 = y_2 \cdot x) \wedge [(y_3 = x) \wedge (y_2 \leq x)] \wedge [(y_3 = x) \wedge (x \leq y_2 \leq x^2)] \rightarrow 2x^2 - y_2 - y_3 \in \mathbb{N} \quad \checkmark$$

$$A \xrightarrow{ET} A_{zab} : \Leftrightarrow (x > 1) \wedge (y_1 = y_2 \cdot x) \wedge [(y_3 = x) \wedge (y_2 \leq x)] \vee [(y_3 = x \wedge x \leq y_2 \leq x^2)] \rightarrow 2x^2 - y_2 - y_1 < 2x^2 - 2y_2 - y_3 \quad \checkmark$$

$$A \xrightarrow{T} A_{zab} : \Leftrightarrow (x > 1) \wedge (y_1 = x_2 \cdot x) \wedge [(y_3 = x) \wedge (y_2 \leq x)] \vee [(y_3 = x \wedge x \leq y_2 \leq x^2)] \wedge (y_2 < y_3) \rightarrow 2x^2 - (y_2 + 1) - y_3 < 2x^2 - y_2 - y_3 \quad \checkmark$$

