ERRATA: "POST-MODERN ALGEBRA," SMITH & ROMANOWSKA

Line 3–12: iff there is a basis D of W extending $f(B)$ such that
Line 10+7: $\Sigma\langle A_i \mid i \in I\rangle$
Line 10+8: $\bigcup\{\{i\} \times A_i \mid i \in I\}$
Line 10+10: $\iota_i p = p_i$
Line 10+11: $\Pi\langle A_i \mid i \in I\rangle$
Line 14+14: $|f_n(x) - f_m(x)|$
Line 20+5: Define $\langle X\rangle = \bigcup_{n\in\mathbb{N}} X^n$.
Line 21+3: subset C of A^+ is a *code*
Line 26+4: $A^2 = \alpha_1 \circ \alpha_2$
Line 26–16ff: Let $\alpha_1, \alpha_2, \alpha_3$ be equivalence relations on a set A. Define $\beta_i = \alpha_j \cap \alpha_k$ for $\{i, j, k\} = \{1, 2, 3\}$. Suppose that the set $\{\alpha_i, \beta_i \mid 1 \leq i \leq 3\}$ is permutable, with $\alpha_i \circ \beta_i = A^2$ for $1 \leq i \leq 3$. If $\alpha_1 \cap \alpha_2 \cap \alpha_3 = \widehat{A}$, show that A is the direct product $A^{\alpha_1} \times A^{\alpha_2} \times A^{\alpha_3}$.
Line 30–14: Exercise 1A
Line 31+10: operations $m_{A \dot\cup B} =$
Line 31–15: $\prod_{1\leq i\leq 2}(A_i, M)$
Line 33+12: $\chi : A \to 2^M; x \mapsto L_x^{-1}(B)$
Page 35, diagram: Reverse the direction of the arrow between h_1 and h_0
Line 39+2: $\langle T\rangle; m \mapsto (m, m)$.
Line 40+15: $\iota_b p = p_b$
Line 44–13: $(G, H^{\mathrm{op}}) \cong \sum_{H\backslash G}(H, H^{\mathrm{op}})$
Line 46–3: A set map $f : X \to M$
Line 49+17: homomorphism
Line 57+11: $\mathrm{Mlt}(Q, \cdot)$
Line 58+4: writing e.g. (A, B, C, V)
Line 58+20:

$$T = \prod_i (x_i, x_i T, \dots, x_i T^{n_i - 1})$$

Line 58–4:

$$(C \overset{L(C)}{\mapsto} C \overset{L(V)}{\mapsto} V \overset{L(C)}{\mapsto} B \overset{L(V)}{\mapsto} C)$$

Line 62–14: 2.2E.
Line 64–8: and $(X, H)\uparrow_H^G \dot\cup (Y, H)\uparrow_H^G$ are

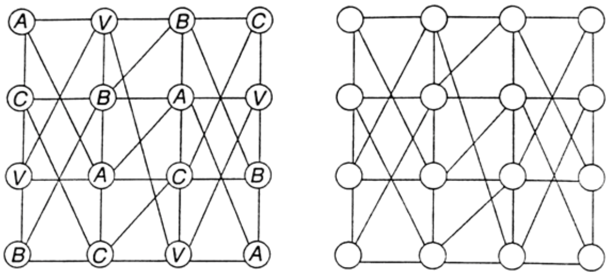
Line 68+18:

$$(X \cup X^J)^* \xrightarrow{R} XG \xrightarrow{p} \mathbb{Z}_2$$

Line 71+6: $p^m = 1 + \sum_{i=2}^{s} |t_i G_e|$,
Line 73+10:

$$x \overset{\alpha}{-} y$$

Line 85–6: $= \frac{1}{2} n \cdot (n-1)! = \frac{1}{2} n! =$
Line 87–6: $x \backslash\backslash y = e \cdot ((x/(e\backslash e))\backslash y)$
Line 88+8: Let $(N, \langle \alpha_i \mid 1 \leq i \leq k \rangle)$ be a k-net.
Page 89: Figure 1.2(b) should have the same diagonal lines as Figure 1.2(a).

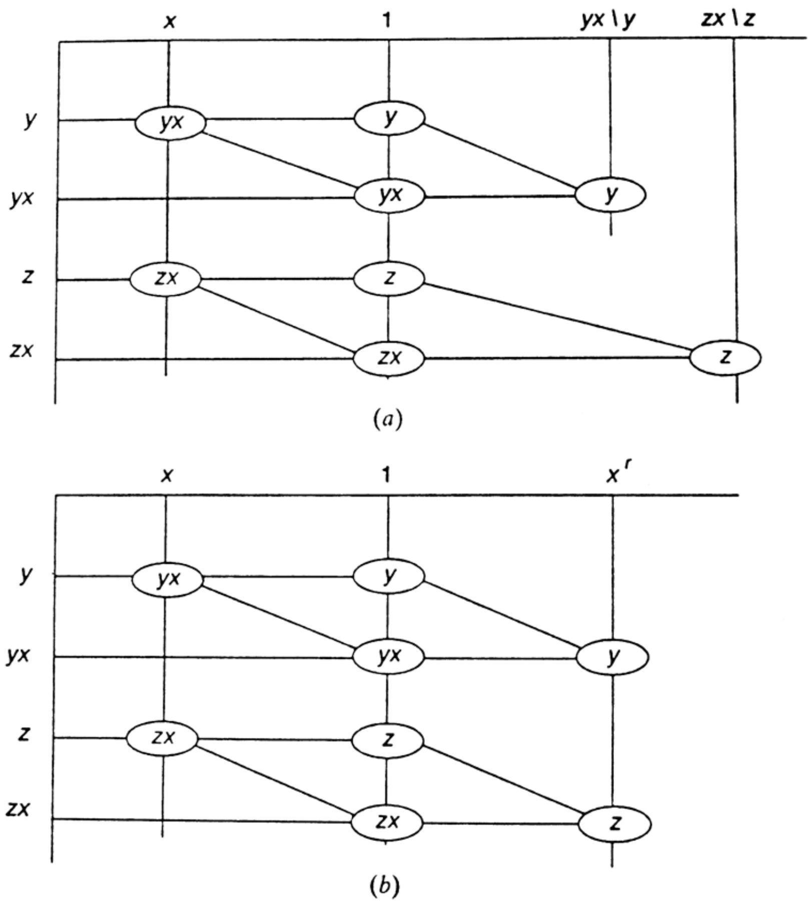


(a) (b)

Line 91–12: $(Q, \cdot, /, \backslash) \to (Q, \cdot, /, \backslash)$ from Q
Line 93+14:

$$I = \begin{bmatrix} 1 & \mathbf{0} \\ \mathbf{0} & 1 \end{bmatrix}.$$

Page 97: Add diagonal lines connecting the following pairs of ellipses in each of (a), (b) of Figure 1.3: yx, y, zx, z.



Page 98: Should be $x(zy\cdot z)$ in the ellipse at row x, column $zy\cdot z$.
Line 101+6: Define $x \cdot y = x = x/y$ for
Line 103–10: Show that $(Q, /, \cdot)$
Line 118–14: **if** $y = x$ **then** a **else** 0
Line 121–6:

$$\rho_T = \sum_{i=1}^{n} \pi_i \iota_{iT} \in \text{End} \bigoplus_{i=1}^{n} A\,.$$

Line 127+16: non-trivial unital ring
Line 128–6: $l_i \in L\} \lhd S$.
Line 128–4: (c) For distinct $K, L \in \text{Spec}(\mathbb{Z})$,
Line 129+2: If S is unital, nontrivial and
Line 140+3: $\subseteq S_1^l \Rightarrow xA = b \Rightarrow xA_0 = xAE = bE = b_0$
Line 143+5: for some $0 \le r \le \min\{l, m\}$ and

Line 143+12ff: Otherwise, one may pick $x_{r+1}, \ldots, x_l$ to be arbitrary members of the field S (so the system is under-determined if $r < l$), and then use the first r equations of the reduced system to obatin $x_1, \ldots, x_r$ in terms of $b'_1, \ldots, b'_r$ and possibly $x_{r+1}, \ldots, x_l$.

Page 147, (2.3.6):

$$\begin{array}{ccc} I & \xrightarrow{f} & V \\ \theta \downarrow & & \downarrow \widetilde{\theta} \\ W & = & W \end{array}$$

Line 150–1: $T : h \mapsto (Th : (v_1, \ldots, v_n) \mapsto h(v_{1T}, \ldots, v_{nT}))$

Line 151+13:

$$h \mapsto (\sum_{i=1}^{n} \theta)h.$$

Line 151–5:

$$= k \det\Bigg(\sum_{j_1=1}^{n} f_{1j_1} E_{1n}^{1j_1}, \ldots$$

Line 162+17ff: 3B. Let A be a nontrivial K-module. Let M be the subset of $K(A, A; A)$ consisting of those bilinear maps $m : A \times A \to A$ for which $(A_K, m, 1)$ is a K-algebra. Show that M is not a submodule of $K(A, A; A)$.

Line 163+7: $T\overline{\theta} = T\theta$.

Line 163–3: is a submonoid of the monoid $(\mathbb{R}[T_1, \ldots, T_n], \cdot, 1)$.

Line 164–13: under the action $M \times A \times K \to M \times A; (m, a, k) \mapsto (m, ak)$,

Line 169–15: Since a is

Line 170+7: coset $f(T) + d(T) \cdot K[T]$

Line 170–18: morphism $K[T] \to K$

Lines 170–3, 170–2, 171+2: $(\operatorname{Max} A)^{*\kappa}$

Line 171+14, 15: If $a_1 A$ is proper,

Line 172+2: subsemigroup of $(K[T], \cdot)$.

Line 173–5: show that each non-zero prime ideal is maximal.

Line 174+5: $\mapsto \det f$ is

Line 177–18: $A^m \cong \bigoplus_{i=1}^m$

Line 183–13: Now $d_m K[T]$

Line 183–11: mial d_m is called

Line 184+8: *polynomial of an endomorphism is its last invariant factor,*

Line 188–13: Moreover, $L = K(a)$.

Line 189–11: polynomial $T^{d_m} - 1$ in $K[T]$
Line 189–10: $n = d_m$
Line 196–13: $(K^\alpha, *, \delta)$
Line 197–16: disjoint union $\dot\bigcup_{X,Y \in \underline{\underline{\mathrm{Set}}}_0}$
Line 198+4: Example 1.6(b).
Line 209–1: YS in bottom, left-hand corner of (1.4.2).
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Line 223–12: $\mathrm{Fix}(2^X, \langle T \rangle)$
Line 243+6: $\varinjlim F$
Line 263+14: with $B < D < C$,
Line 264+18: In the image Example 3.3.2(b), consider the case where f surjects.
Line 265+6: Monarchy?
Line 284+14: $(A, \cdot, /, 1)$
Line 288–8: $\underline{\mathrm{nat}}\ \alpha :$
Line 308–3: $\overline{h} : X\Omega R_{\underline{\underline{K}}} \to A$
Line 314–1: $P\Omega$ in bottom, left-hand corner of diagram
Line 363–16l: Frobenius homomorphism, 188
Line 363–16r: Heyting algebra, 267
Line 365–19r: monoid ring functor
Line 370–3l: $\widehat{V}$, 327