Errors in Volume 2

Chapter 4

1) page 72, corollary 4.4.9.b, line 2: and $g'_j = g_j/x_i^{a_j}$.
2) page 155, line 7: P-module $F_0 = \bigoplus_{i=1}^{r_0} P(-d_{0i})$
3) page 155, line 12: form $F_i = \bigoplus_{j=1}^{r_i} P(-d_{ij})$

Chapter 5

1) page 218, line 1 after definition 5.3.5: so simple that we know
2) page 220, example 5.3.9, line 11: we get $\mathrm{HN}_{P/I_{111}}(z) =$
3) page 224, exercise 4.c: $m < \ell \leq d$
4) page 234, proof of proposition 5.4.2, line 5: equals $\mathrm{HF}_M(\alpha + N) > 0$
5) page 241, proof of theorem 5.4.15, line -3: For $d = 0$, we have $\mathrm{HS}_M(z) = z^\alpha \cdot \mathrm{hn}_M(z)$
6) page 245, tutorial 71.d: the queen ideal is radical.
7) page 286, proposition 5.6.17.c, line 2: in $\sqrt{\mathfrak{q}_1} \cup \cdots \cup \sqrt{\mathfrak{q}_s}$.
8) page 306, corollary 5.7.10, step $I3$): Return L_j and stop.
9) page 334, exercise 3.a): there exists a graded K-module $M \otimes_K M'$ such that $(M \otimes_K M')_d = \bigoplus_{i+j=d} M_i \otimes_K M'_j$ for all $d \in \mathbb{Z}^m$.
10) page 334, exercise 3.b): of $M \otimes_K M'$ is

Chapter 6

1) page 391, proposition 6.3.8.a: we let $f_i = \prod_{j=1}^{r_i}(x_i - a_{ij})$
2) page 395, example 6.3.13, last occurance of step 5): the bottom right entry of $\mathcal{M}$ should be -2.
3) page 400, proof of proposition 6.2.23, line 5: use Lemma 6.3.20 and
4) page 408, exercise 4, last line: $\mathcal{I}(\mathbb{X}) = (D_\pi(u_1), \ldots, D_\pi(u_k))$, where $\pi = (\pi_1, \ldots, \pi_n)$ and $\{u_1, \ldots, u_k\}$ is the minimal monomial system of generators of $\mathrm{LT}_\sigma(I)$.
5) page 500, tutorial 96.c: delete part 3) and replace it by
Show by example that the rule $\mathrm{NF}_S(f_1 f_2) = \mathrm{NF}_S(\mathrm{NF}_S(f_1)\,\mathrm{NF}_S(f_2))$ does not hold in general.
6) page 501, tutorial 96.h: Replace G by $G = \{x_1x_2 - x_3^2,\ x_1^4 - x_1^2x_2^2\}$ and the result by $\{x_1x_2 - x_3^2,\ x_1^4 - x_3^4\}$.
7) page 501, tutorial 96.i: at the end of step 6) add
Interreduce H and $\mathcal{H}$ K-linearly.
8) page 502, tutorial 96.m: in 2) and 3) write $G = \{x_1^2 \ldots$.
9) page 507, tutorial 98.a: add the following sentence:
To compute I_G, use your function `Invariants`(...) of Tutorial 40.g.