ERRATA
for
Algebraic Combinatorics, second ed., Springer, 2018
(24 September 2022)

I am grateful to Benjamin Sambale for most of these corrections.

- page 6, line 10. Change \( p(p - 1)^\ell \) to \( p(p - 1)^{\ell - 1} \).
- page 9, Exercise 13. While this exercise is correct, it is not so interesting because no such graphs exist! It is a nice exercise to find a proof. See MathOverflow 431083.
- page 30, line 2. The right-hand side is missing a factor \( 1 + x \). It should be
  \[(1 + x) \left( (I_{p-1} - (x + 1)M[v])^{-1}T[v] \right)_u.\]
- page 36, Lemma 4.6. It should be noted that we set \( U_{-1} = 0 \) and \( D_{n+1} = 0 \).
- page 49, line 17–. It should be assumed that \( m \geq 3 \) in the statement that \( G \) is isomorphic to \( S_m \).
- page 70, proof of Theorem 6.14. It was not shown before that \( M(n) \) is rank-symmetric, though this is immediate from the last line on page 68.
- page 83, Theorem 7.7, line 2. We should take \( X \) to have \( t \) elements, not \( n \), since \( n \) is used for the number of colors. In the proof on page 84 it is correctly assumed that \( \#X = t \).
- page 95, line 5. Change \( r \) to “at most \( r - 1 \)”.
- page 95, line 8. Change “at most \( r \)” to “at most \( r - 1 \)”.
- page 105, lines 15– to 14–. The letter \( n \) is used in two different ways. We should let \( \lambda \vdash m \), for instance.
• page 139, line 1–. Change the (1, 1) entry of $L(G)$ from 4 to 5.

• page 151, line 8–. Change $e_2$ to $v_2$.

• page 151, line 6–. Change $e_j$ to $e_i$.

• page 151, line 5– (third bullet). This line is superfluous.

• page 173, line 18. Change $V_q = 1$ to $V_q = -1$.

• page 174, line 11–. Change $V_q = 1$ to $V_q = -1$.

• page 187, line 6–. We neglected to define (though hopefully the definition is obvious) the dimension of $\Delta$ to be the maximum dimension of a face of $\Delta$.

• page 194, line 10. Change “the set of” to “the set $Y$ of”.

• page 194, line 12. Change “$X =$” to “$Y =$”.

• page 194, line 1–. Change 13 to 12.

• page 198, Example 12.14(a). The $f$-vector should be $(4, 3)$, not $(3, 2)$. Hence line 3 becomes
\[(x - 1)^2 + 4(x - 1) + 3 = x^2 + 2x,\]
and the $h$-vector is $(1, 2, 0)$.

• page 204, line 7. Earlier there should have been defined the Hilbert function of $K[\Delta]$ by
\[H(K[\Delta], i) = \dim_K K[\Delta],.\]

• page 204, lines 9– and 7–. Change $j - 1$ to $j$.

• page 205, line 1. Change $k$ to $j$ (three times).

• page 210, line 18–. Change $d$ to $h_i$ (twice). Also, the notation $\beta_1, \ldots, \beta_{h_i}$ for both the concatenation of the sequences $b_j$ and the list of these sequences is confusing. It would be better to either delete the first $\beta_1, \beta_2, \ldots, \beta_{h_i}$ or to introduce new notation for concatenation, such as concat$(\beta_1, \ldots, \beta_{h_i})$. 