EECS/MATH 1019N — Winter 2023 Exercises to Work On (Not for Submission)

Here are exercises to work on from Rosen's Discrete Mathematics and Its Application (Eighth Edition). Do not submit solutions to these exercises they will not be graded. You can find answers or solutions for most of these questions at the end of the book. Many of the homework and exam questions will be similar to these questions.

Questions are listed by section of the text, in numerical order. Some sections may be done in a different order.

Exercises in square brackets [] are optional questions that are worth looking at: they may be more specialized or more challenging. The rest of the problems cover material that everyone should know. There are a lot of exercises, and the more that you do, the better.

Besides the exercises below, see the Review Questions and Supplementary Exercises at the end of each chapter.

Section 1.1: 5, 9(c,d,e), 11(c,e,g), 15, 19, 23(a,b), 25(a,d,e,h), 29(b), 33(c,f), 35(c), 39(a,d), 43, 47(a,b).

Section 1.2: 3, 9, [11], [15], 21(think literally!), 37, [45].

Section 1.3: 5, 7(a,b), 9(a,c), 11(a,e), 15(a,e), 21, 27, 33, 65.

Section 1.4: 7, 9, 15, 19(a-d), 25, 35(a,c,e), 41(a,b), 45, 47, 55, 57.

Section 1.5: 3, 7(a,c,e), 9(a-e), 13(b,d,g,i), 23, 27(a,b,g,h), 33(b,d), 39.

Section 1.6: 3, 5, 9(a,b,d), 15(b,d), 19, 27, 31.

Section 1.7: 1, 5, 9, 11, 17, 19, 25, [27], 33, 37, 41.

Section 1.8: 5, 7, 9, 11, [15], 17(a,b), 19(also: what changes if a = b?), 21, [25], 29, 35, 45.

Section 2.1: 5(a,b), 7, 9(a-d), 11, 19, 21, 23(a,b), 29, 35, 37, 43, 45, 47, [50].

Section 2.2: 3, 9, 13, 15, 21, 25, 27(a,c), 31, 37, 53, 57(c,d), 59, [67].

Section 2.3: 1, 5(a,b,c), 7, 9(b,d,f,h), 13, 15(c,d,e), 21, 23, 29, 31(a,b), 33, [35], 41, 53, 55, [57], [59], 61(a,b), 69(a,b,c), 75(a,b,c).

Section 2.4: 3(a,c), 5(a,b,d,e), 9(b-e), 11, 13(a-d), 17(a,b,e,g), 21, [23], 25(b-e), [27], 29(a,b,c), 31(a,d), 33(a,c), 35, 37, 39, 41.

Section 2.5: 1, 3(a,b,c), 7, [9], 11, 15, 17, 19, 21, 25, 27, 29, [31], [35], 37, [38], 39, [41].

Section 3.2: 1, 3, 5, 7, 9, 11, 15, 17, 19, 21, 23, 29, 39, [43], [45], [47], 49, [73], [75].

Section 5.1: 3, 7, 11, 13, 15, 19, 21, 23, 25, [27], [29], 31, 33, 37, 41, 45, 51, 55, 61, [65], 67, [75].

Section 5.2: 3, 5, [11], 13, [15], [17], [23], 25, [31], 35, [39].

Section 5.3: 3(a,d), 5(a,b,e), 9, 13, 15, 23, 25(a,c), 29, 31(a), 35, 37, 41, [43], 45, [49], 61(b,c).

Section 8.1: 1, 3, 9, 11, 13, [15], 17, [21], [39], [41].

Section 8.2: 1, 3(a,c,d,e,f), 7, 9, 13, 15, 19, 21, 23, 25, 27(a,b,c,f,g), 29, 33, 37, [39], [41], 47.

Section 9.1: 1(b,c), 3, 5(a,c), 7(a,b,c,f), 31, 35.

Section 9.5: 1(b,c,d), 3(a,b,e), 7, 9, 13, 15, [17], 25, 29, 41, 43(a,b,d), 45(a,b), 47(a,d), 57, 61.

Section 10.1: 1, 3, 5, 7, 9, 11, 13(a), 15, 19, 29, 31, [37].

Section 10.2: 3, 5, 7, 11, 13, 15, 21, 23, 27, 35, 37, 43, 51, 59, 61(a,b), 63.

Section 10.3: 1, 3, 5, 7, 11, 13, 17, 23, 31, 33, 39, 43, 45, [47], 49, 53, 59, 63, [73].

Section 10.4: 1, 5, 11(a,c), 15(a,b), 21, 23, 29, 33, 35, [37], 39(a), 47, 53, [55], [59], [63], [64], 65].

Section 10.5: 1, 3, 5, 11, 15, [17], 19, 21, 27, 31, 35, 37, 41, 55, [65], [67].

Section 11.1: 1, 3, 7, 9, 11, [15(a)], 17, 19, 29(a), 31, 33(b), 35, [45], [46], 47.