

Problem Sets Before Test 1

Only turn in problems that are **not** bracketed. Bracketed problems are additional problems you can look at. Round brackets indicate problems that may help you with problems that are assigned; square brackets are additional problems on material that you should know, but you are not required to write up solutions; curly brackets are truly optional and may contain extra nuggets that you will not be required to know but may be interested in.

Additional assignments will be filled in over time.

notation	meaning
unbracketed	assigned problem – turn these in for grading
()	helper/warm-up problem
[]	additional problems (you are responsible for content, but don't turn them in)
{}	covers optional material

Due	Task	Source	Problems
Mon 2/4	PS 1	Rosen 10.1	(1) (3,5,7,9) types of graph 4 types of graph 8 types of graph 13 intersection graph 18 Fred 33 precedence graph
Wed 2/6	WW01	Rosen 10.2	
Fri 2/8	WW02	Rosen 10.3	
Mon 2/11	PS 2	Rosen 10.4	2 paths 6 components 12 strong/weak connectivity 14 components 16 along the way 18 isomorphic? 20 isomorphic? 64 farmer puzzle 66 water puzzle [1] paths [3–5] [11] strong/weak connectivity [21, 23] isomorphic?
Fri 2/15	PS 3	Rosen 10.5	2–8 even Euler paths/circuits 10 bridges 18 directed Euler 20 directed Euler 26 which have Euler circuits? 13–15 trace it [1–7 odd] Euler paths/circuits [19, 21] directed Euler Note: Your answers to homework in this class should typically include some sort of explanation. Answers like “Yes”, “No”, and “17”, are rarely sufficient.
Wed 2/20	PS 4	Rosen 10.2 Rosen 10.7 Rosen 10.RQ	22–25 bipartite? 26 bipartite? 2–4 planar 12 regions [13] regions 14 vertices 3 degree
Fri 2/22	PS 5	Rosen 10.7 Rosen 10.SE	6–8 planar 23–25 Kuratowski 3–5 isomorphic?
Tue 2/26	WW03		Note Tuesday due date (at noon)
Thu 2/28	WW04		Note Thursday due date (at noon)

Due	Task	Source	Problems
Fri 3/1	PS 6	Rosen 6.1 Rosen 6.2 Rosen 6.3	28 license plates 48 bit strings 42 DNA 50 consecutive 0's [29–30] license plates [32–33] strings [41] photos [56] C variables 4 balls 40 party 22 strings 26 softball
Tue 3/5	WW05		
Wed 3/6	**	Rosen 10.RQ Rosen 10.SE Rosen 6.RQ Rosen 6.SE	[1] types of graph [2] models [3–5] degree [6–7] graph examples [8] bipartite [9] graph representation [10] isomorphism [11] connected [12] checking isomorphism [13] Euler paths [14a] Hamilton paths [17] planar graph [18] Euler's formula [19] Kuratowski's Theorem [3–5] isomorphic? [29abcf] invariants [1–3] counting principles [5] bit strings [6–7] pigeonhole principle [8] combinations and permutations [13] counting problem schemas [15] scrambling letters [1–2] selecting items [3] T/F [4] bitstrings [6] phone numbers [7] ice cream [10] zodiac [11] cookies [12] birth [15] cards [21] donuts [22] permutations [23] combinations [36] round table [37] advising [40] PEPPERCORN [42] license plates