

Homework Assignment 2
CSCI 2405
Spring 2020
Section 001

1. Draw a diagram of each of the following graphs.

(a) K_6

(b) $K_{1,8}$

(c) $K_{4,4}$

(d) C_7

(e) Q_4

2. Suppose that a new company has five employees: Zamora, Agraharan, Smith, Chou and Macintyre. Each employee will assume one of six responsibilities: planning, publicity, sales, marketing, development and industry relations. Each employee is capable of doing one or more of these jobs: Zamora can do planning, sales, marketing or industry relations; Agraharam can do planning or development; Smith can do publicity, sales or industry relations; Chou can do planning, sales or industry relations; and Macintyre can do planning, publicity, sales or industry relations.

7. Do exercise 41 on page 712 (Section 10.3) of Rosen, eighth edition.

8. Do exercise 42 on page 712 (Section 10.3) of Rosen, eighth edition.

9. Do exercise 43 on page 712 (Section 10.3) of Rosen, eighth edition.

10. Do exercise 44 on page 712 (Section 10.3) of Rosen, eighth edition.

11. Suppose that G and H are isomorphic simple graphs. Show that \overline{G} and \overline{H} are also isomorphic.

12. Do exercises 3-5 beginning on page 724 (Section 10.4) of Rosen, eighth edition.

19. Suppose that a particular planar graph has k connected components, e edges and v vertices. Also suppose that the plane is divided into r regions by a planar representation of the graph. Find a formula for r in terms of e , v and k .

20. Do problem 20 on page 761 (Section 10.7) of Rosen, eighth edition.

21. Do problem 24 on page 761 (Section 10.7) of Rosen, eighth edition.