Exercises 6

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2.5

in-degree of a is 6, out-degree of a is 1;
in-degree of b is 1, out-degree of b is 5;
in-degree of c is 2, out-degree of c is 5;
in-degree of d is 4, out-degree of d is 2;
in-degree of e is 0, out-degree of e is 0.

2.18

a) 3, 3, 3, 3;

b) 2, 2, 2, 2;

c) 4, 3, 3, 3, 3;

d) 3, 3, 2, 2, 2;

a) 3, 3, 3, 3, 3, 3, 3, 3.

3.2

Initial Vertex	***Terminal Vertices***
a	a,b,c,d
b	d
c	a,b
d	b,c,d

3.8

We order the vertices as a, b, c, d. The matrix representing this graph is

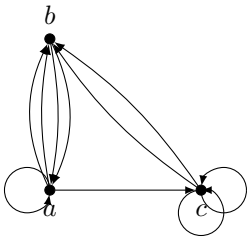
$$\begin{bmatrix} 1 & 0 & 1 & 1 \\ 0 & 1 & 1 & 1 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 0 & 1 \end{bmatrix}$$

3.10

The matrix representing this graph is

$$\begin{bmatrix} 1 & 1 & 2 & 1 \\ 1 & 0 & 0 & 2 \\ 1 & 0 & 1 & 1 \\ 0 & 2 & 1 & 0 \end{bmatrix}$$

3.12



3.28 c)

No isomorphic.

3.30

Isomorphic.