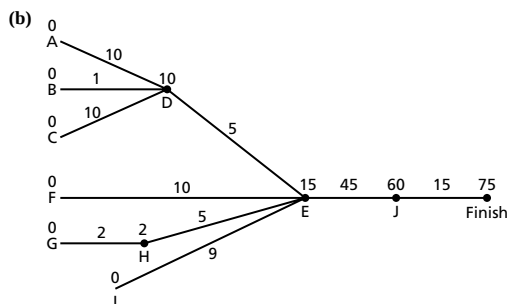


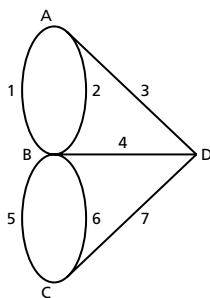
9. (a)	Duration (min)	Prerequisite(s)
A. Fry beef	10	—
B. Chop $\frac{1}{2}$ onion	1	—
C. Chop 1 green pepper	2	—
D. Add oil, onion, garlic, sauce, corn, green pepper, sugar, salt, chili	5	A, B, C
E. Bake in oven	45	D, F, H, I
F. Combine cornmeal and milk	10	—
G. Mix flour, salt, baking powder, sugar	2	—
H. Add vegetable shortening, egg, milk	5	G
I. Preheat oven to 375°	9	—
J. Cool dish	15	E



(c) 75 min

Chapter 6 Wrap-Up, page 385

3. Not possible to cross each bridge just once.



4. (a) $A: 1 \times 3, B: 3 \times 1, C: 3 \times 3$

(b) $\begin{bmatrix} 2 & 2 & 4 \\ 4 & 6 & 1 \\ 1 & 1 & 4 \end{bmatrix}$ (c) $\begin{bmatrix} 0 & 2 & 4 \\ 4 & 4 & 1 \\ -1 & 1 & 2 \end{bmatrix}$ (d) $\begin{bmatrix} 2 & 4 & 8 \\ 8 & 10 & 2 \\ 0 & 2 & 6 \end{bmatrix}$

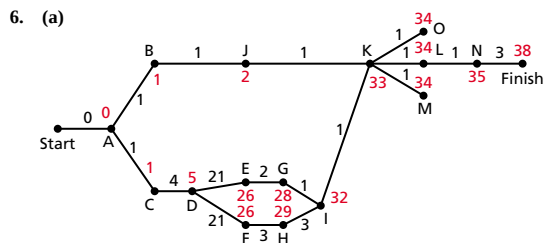
(e) $\begin{bmatrix} 3 \\ -6 \\ -30 \end{bmatrix}$ (f) $[9 \ 17 \ 21]$

(g) $B \times C$ does not exist. $C \times B = \begin{bmatrix} 43 \\ 16 \\ 32 \end{bmatrix}$

- (h) When two matrices $m \times n$ and $k \times j$ are multiplied, we must have that $n = k$ (inner dimensions match). For $A \times C$, $3 = 3$, so this is okay. For $C \times A$, $3 \neq 1$, so this is NOT okay.

- (i) Both equal $[15 \ 19 \ 26]$.

5. 1-3-5-8-10-11; earliest completion time: 36 d



(b) A-C-D-F-H-I-J-K-L-N (c) 38 d

Chapter 6 Test, page 387

2. (a) $A: 1 \times 3, B: 3 \times 1, C: 3 \times 3$

(b) $\begin{bmatrix} 4 & 2 & 4 \\ 7 & 1 & 1 \\ 6 & 1 & 7 \end{bmatrix}$ (c) $\begin{bmatrix} 0 & 2 & 4 \\ 1 & -1 & 1 \\ 4 & 1 & -1 \end{bmatrix}$ (d) $\begin{bmatrix} 4 & 4 & 8 \\ 8 & 0 & 2 \\ 10 & 2 & 6 \end{bmatrix}$

(e) $\begin{bmatrix} 6 \\ -9 \\ 21 \end{bmatrix}$ (f) $[17 \ -3 \ -1]$

(g) $B \times C$ does not exist. $C \times B = \begin{bmatrix} -26 \\ -15 \\ -28 \end{bmatrix}$

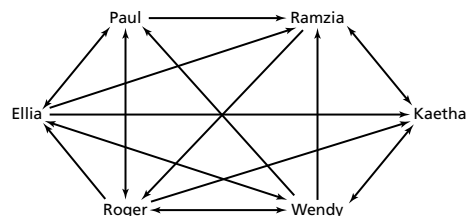
- (h) Inside dimensions must be the same to multiply two matrices.

For $A \times C$, $(1 \times 3) \times (3 \times 3)$ is okay.

For $C \times A$, $(3 \times 3) \times (1 \times 3)$ is NOT okay.

- (i) Both equal $[14 \ -3 \ 19]$.

3. (a)



(b) $\begin{bmatrix} 0 & 1 & 1 & 1 & 1 & 0 \\ 1 & 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 1 & 0 \\ 1 & 1 & 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 1 & 1 & 0 \end{bmatrix}$ (c) $\begin{bmatrix} 0 & 1 & 1 & 1 & 1 & 0 \\ 1 & 0 & 1 & 0 & 0 & 1 \\ 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 1 & 0 \\ 1 & 1 & 1 & 1 & 0 & 1 \\ 1 & 1 & 0 & 1 & 1 & 0 \end{bmatrix}^4; 15$

4. A-B-H-K-L-M-E-J-G: EST: 59 d

Task	Duration (d)	Prerequisite Task(s)
Start	0	
A	2	Start
B	5	A
C	7	B, H
D	4	C
E	12	D, I, M
F	4	E
G	7	F, J
H	7	B
I	10	H
J	5	E
K	7	H
L	9	K
M	5	H, L