

1)

$$C = \begin{bmatrix} 1 & 3 \\ 7 & 5 \end{bmatrix} \begin{bmatrix} 6 & 8 \\ 4 & 2 \end{bmatrix}$$

Step 1

$$\begin{bmatrix} A_{11} & A_{12} \\ A_{21} & A_{22} \end{bmatrix} \begin{bmatrix} B_{11} & B_{12} \\ B_{21} & B_{22} \end{bmatrix}$$

$$A_{11}=1, A_{12}=3, A_{21}=7, A_{22}=5$$

$$B_{11}=6, B_{12}=8, B_{21}=4, B_{22}=2$$

Step 2

$$P = (A_{11} + A_{22})(B_{11} + B_{22})$$

$$= (1+5)(6+2)$$

$$= 48$$

$$Q = (A_{21} + A_{12})B_{11} = (7+5)6$$

$$= 72$$

$$R = A_{11}(B_{12} - B_{22}) = 1(8-2) = 6$$

$$S = A_{22}(B_{21} - B_{11}) = 5(4-6) = -10$$

$$T = (A_{11} + A_{12})B_{22} = (1+3)2 = 8$$

$$U = (A_{21} - A_{11})(B_{11} + B_{12}) = (7-1)(6+8) = 84$$

$$V = (A_{12} - A_{22})(B_{21} + B_{22}) = (3-5)(4+2) = -12$$

Step 3

$$C_{11} = P + S - T + V$$

$$48 - 10 - 8 - 12 = 18$$

$$C_{12} = R + T = 6 + 8 = 14$$

$$C_{21} = Q + S = 72 - 10 = 62$$

$$C_{22} = P + R - Q + U = 48 + 6 - 72 + 84 = 66$$

$$C = \begin{bmatrix} 18 & 14 \\ 62 & 66 \end{bmatrix}$$

2)

[13,19,9,5,12,8,7,4,21,2,6,11]

[13,19,9,5,12,8,7,4,21,2,6,11]

[13,19,9,5,12,8,7,4,21,2,6,11]

[9,19,13,5,12,8,7,4,21,2,6,11]

[9,5,13,19,12,8,7,4,21,2,6,11]

[9,5,13,19,12,8,7,4,21,2,6,11]

[9,5,8,19,12,13,7,4,21,2,6,11]

[9,5,8,7,12,13,19,4,21,2,6,11]

[9,5,8,7,4,13,19,12,21,2,6,11]

[9,5,8,7,4,13,19,12,21,2,6,11]

[9,5,8,7,4,2,19,12,21,13,6,11]

[9,5,8,7,4,2,6,12,21,13,19,11]

[9,5,8,7,4,2,6,11,21,13,19,12]

3)

The given recursive algorithm computes the minimum element in array A[i..j]  
g+ finds minimum value element.