Review 16

2023065350 최동규

1. Determine D(4) and ∏(4) in the Floyd-Warshall algorithm.

$$D(3)=\begin{pmatrix}0 & 3 & 8 & 4 & -4\\ \infty & 0 & \infty & 1 & 7\\ \infty & 4 & 0 & 5 & 11\\ 2 & -1 & -5 & 0 & -2\\ \infty & \infty & \infty & 6 & 0\end{pmatrix} \qquad \Pi(3)=\begin{pmatrix}\text{NIL} & 1 & 1 & 2 & 1\\ \text{NIL} & \text{NIL} & \text{NIL} & 2 & 2\\ \text{NIL} & 3 & \text{NIL} & 2 & 2\\ 4 & 3 & 4 & \text{NIL} & 1\\ \text{NIL} & \text{NIL} & \text{NIL} & 5 & \text{NIL}\end{pmatrix}$$

$$D(4)=\begin{pmatrix}0 & (3) & (-1) & (4) & (-4)\\ (3) & 0 & (-4) & (1) & (-1)\\ (7) & (4) & 0 & (5) & (3)\\ (2) & (-1) & (-5) & 0 & (-2)\\ (8) & (5) & (1) & (6) & 0\end{pmatrix}$$

$$\Pi(4)=\begin{pmatrix}\text{NIL} & (1) & (4) & (2) & (1)\\ (4) & \text{NIL} & (4) & (2) & (1)\\ (4) & (3) & \text{NIL} & (2) & (1)\\ (4) & (3) & (4) & \text{NIL} & (1)\\ (4) & (3) & (4) & (5) & \text{NIL}\end{pmatrix}$$