Examples

G:

Mixed Graph:

$$\mathcal{U} = \{1,2,3,4\}$$
$$W = \emptyset$$

undirected edges matrix $=$

$$\begin{pmatrix} k_{11} & 0 & k_{13} & 0 \\ 0 & k_{22} & 0 & k_{24} \\ k_{31} & 0 & k_{33} & 0 \\ 0 & k_{42} & 0 & k_{44} \end{pmatrix}$$
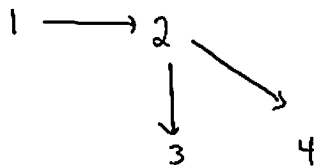
errors $\nearrow$ directed edges matrix

$\searrow$ bidirected edges matrix

$$\Lambda = Id_{4\times 4}$$

$\emptyset$

D:

Mixed Graph:

$$\mathcal{U} = \emptyset \quad V(W) = \{1,2,3,4\}$$

undirected edges matrix ; $\emptyset$

directed edges matrix :

$$\begin{pmatrix} 1 & -\lambda_{12} & 0 & 0 \\ 0 & 1 & -\lambda_{23} & -\lambda_{24} \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{pmatrix}$$

error   bidirected edges matrix:

$$\begin{pmatrix} p_{11} & & & \\ & p_{22} & & \\ & & p_{33} & \\ & & & p_{44} \end{pmatrix}$$

GD:

U = 1234

error

undirected Edges Matrix

$$\begin{bmatrix} k_{11} & 0 & k_{13} & 0 \\ 0 & k_{22} & 0 & k_{24} \\ k_{31} & 0 & k_{33} & 0 \\ 0 & k_{42} & 0 & k_{44} \end{bmatrix}$$

directed Edges Matrix

$$\begin{bmatrix} 0 & l_{12} & 0 & 0 \\ 0 & 0 & l_{13} & l_{24} \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$

bidirected Edges Matrix

$\emptyset$

DB

undirected Edges Matrix $\emptyset$ ✓

directed Edges Matrix

$$\begin{bmatrix} 0 & l_{12} & 0 & 0 \\ 0 & 0 & l_{23} & l_{24} \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$$ ✓
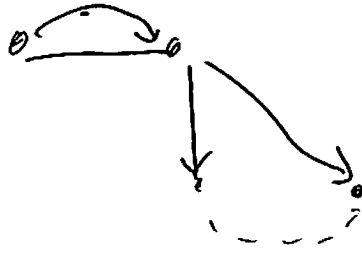
bidirected Edges Matrix

$$\begin{bmatrix} p_{11} & 0 & p_{13} & 0 \\ 0 & p_{11} & 0 & p_{24} \\ p_{31} & 0 & p_{13} & 0 \\ 0 & p_{42} & 0 & p_{44} \end{bmatrix}$$ ✓

GDB

Status

$U = 12$ $\qquad$ $W = 34$

error	undirected Edges Matrix	$\begin{bmatrix} k_{11} & k_{12} \\ k_{21} & k_{22} \end{bmatrix}$
	directed Edges Matrix	$\begin{bmatrix} 0 & l_{12} & 0 & 0 \\ 0 & 0 & l_{23} & l_{24} \\ 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \end{bmatrix}$
incorrect	bidirected Edges Matrix	$\begin{bmatrix} \phi_{33} & P_{34} \\ P_{34} & P_{44} \end{bmatrix}$