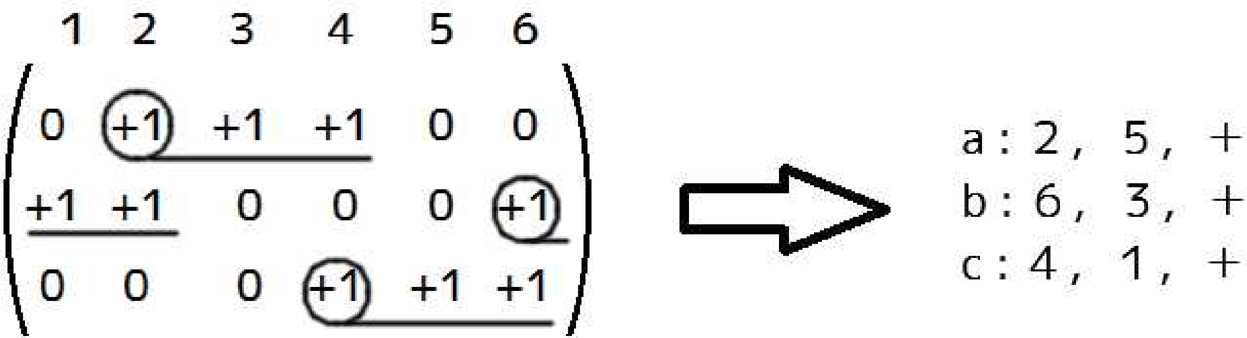
§2. Reidemeister Moves

Warping Incidence Matrix



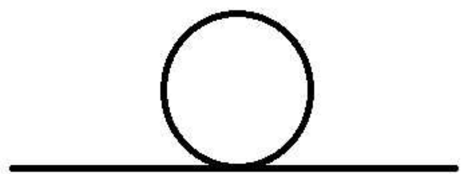
Warping Incidence Matrix

Data

by Akiyama & Shimizu (NIT,Gunma College)

Reidemeister Move Ⅰ

$$\mathrm{a} : n\,,\ n \pm 1\,,\ \pm$$



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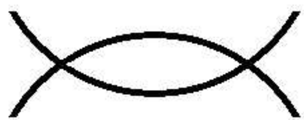
Reidemeister Move Ⅱ

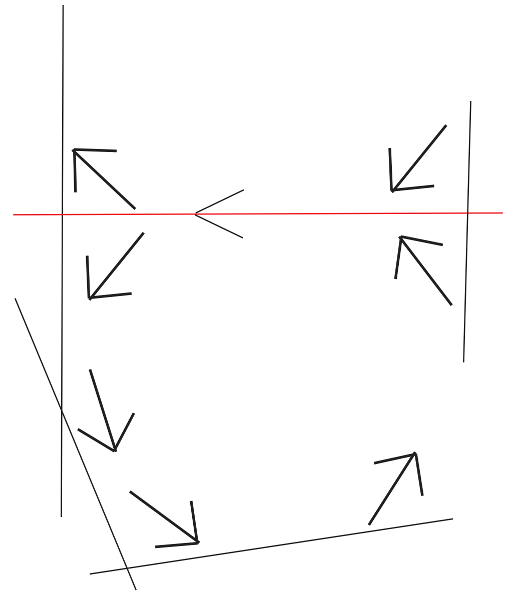
$$a : k \quad , \; l \quad , \; \pm$$

$$b : k \pm 1 \, , \; l \pm 1 \, , \; \pm$$



Warping Incidence Matrix

	s1	e1	s0	e0
+	R	R	L	L
-	L	L	R	R



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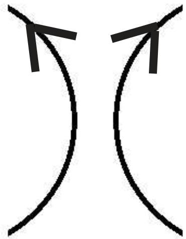
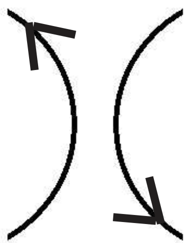
Warping Incidence Matrix



$$k+1,\ l+1,\ \pm$$
$$k+2,\ l+2,\ \pm$$



$$k+1,\ l+2,\ \pm$$
$$k+2,\ l+1,\ \pm$$

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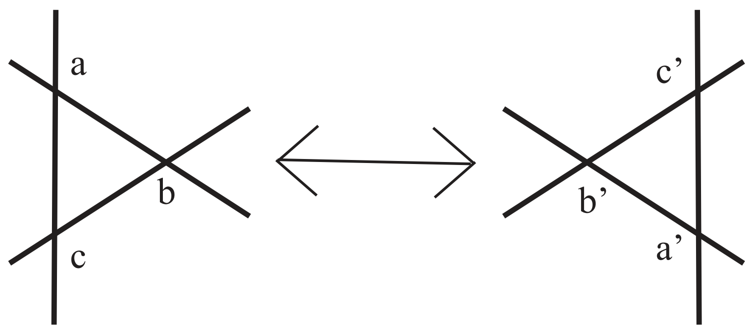
Warping Incidence Matrix

Reidemeister Move Ⅲ

$$
\begin{aligned}
a &: k,\ l,\ \pm \\
b &: k',\ m,\ \pm \\
c &: m',\ l',\ \pm
\end{aligned}
\quad \longleftrightarrow \quad
\begin{aligned}
a' &: k',\ l',\ \pm \\
b' &: k,\ m',\ \pm \\
c' &: m,\ l,\ \pm
\end{aligned}
$$

$$
\begin{aligned}
k' &= k \pm 1 \\
l' &= l \pm 1 \\
m' &= m \pm 1
\end{aligned}
$$



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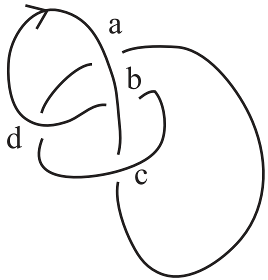
Warping Incidence Matrix



=

a : 2 , 5 , - ●
b : 3 , 8 , - ●
c : 7 , 4 , - ●
d : 1 , 6 , +

$\xrightarrow{\text{III}}$

a : 3 , 4 , - ●
b : 2 , 7 , -
c : 8 , 5 , -
d : 1 , 6 , +

$\xrightarrow{\text{I} (-)}$

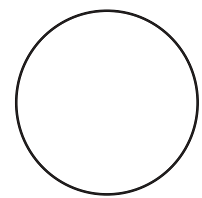
b : 2 , 5 , - ●
c : 6 , 3 , -
d : 1 , 4 , + ●

$\xrightarrow{\text{II} (-)}$

c : 2 , 1 , - ●

$\xrightarrow{\text{I} (-)}$

ε =



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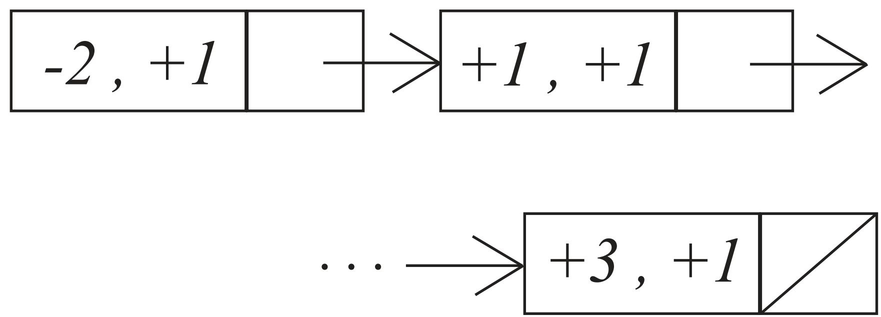
Warping Incidence Matrix

$$\begin{cases} a, b, c, \ldots : 1, 2, 3, \ldots \\ s1 : \times(+1) \\ s0 : \times(-1) \end{cases}$$

$$\begin{cases} + : +1 \\ - : -1 \end{cases}$$

$$\begin{matrix} a : \mathit{2}, \mathit{5}, + \\ b : \mathit{4}, \mathit{1}, + \\ c : \mathit{6}, \mathit{3}, + \end{matrix} \quad =$$



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