(0) iteration : Start with the raw data in a two-way table

I	J			
	1	2	3	4
1	$e_{11}^{(0)}=y_{11}$	$e_{12}^{(0)}=y_{12}$	$e_{13}^{(0)}=y_{13}$	$e_{14}^{(0)}=y_{14}$
2	$e_{21}^{(0)}=y_{21}$	$e_{22}^{(0)}=y_{22}$	$e_{23}^{(0)}=y_{23}$	$e_{24}^{(0)}=y_{24}$
3	$e_{31}^{(0)}=y_{31}$	$e_{32}^{(0)}=y_{32}$	$e_{33}^{(0)}=y_{33}$	$e_{34}^{(0)}=y_{34}$

(1) iteration, step a: Find the median of each row $\Delta a_i^{(1)}=\text{median}\left(e_{i1}^{(0)},\ldots,e_{iJ}^{(0)}\right)$ and $\Delta m_b^{(1)}=\text{median}\left(b_j^{(0)}\text{'s}\right)$

I	J				New med	Prev Effect
	1	2	3	4		
1	$e_{11}^{(0)}=y_{11}$	$e_{12}^{(0)}=y_{12}$	$e_{13}^{(0)}=y_{13}$	$e_{14}^{(0)}=y_{14}$	$\Delta a_1^{(1)}=\text{median}\left(e_{11}^{(0)},\ldots,e_{1J}^{(0)}\right)$	$a_1^{(0)}=0$
2	$e_{21}^{(0)}=y_{21}$	$e_{22}^{(0)}=y_{22}$	$e_{23}^{(0)}=y_{23}$	$e_{24}^{(0)}=y_{24}$	$\Delta a_2^{(1)}=\text{median}\left(e_{21}^{(0)},\ldots,e_{2J}^{(0)}\right)$	$a_2^{(0)}=0$
3	$e_{31}^{(0)}=y_{31}$	$e_{32}^{(0)}=y_{32}$	$e_{33}^{(0)}=y_{33}$	$e_{34}^{(0)}=y_{34}$	$\Delta a_3^{(1)}=\text{median}\left(e_{31}^{(0)},\ldots,e_{3J}^{(0)}\right)$	$a_3^{(0)}=0$
Prev Effect	$b_1^{(0)}=0$	$b_2^{(0)}=0$	$b_3^{(0)}=0$	$b_4^{(0)}=0$	$\Delta m_b^{(1)}=\text{median}\left(b_j^{(0)}\text{'s}\right)=0$	$m^{(0)}=0$

(1) iteration, step b: Row polish by subtracting the $\Delta a_i^{(1)}=\text{median}\left(e_{i1}^{(0)},\ldots,e_{iJ}^{(0)}\right)$ values.

I	J				New med	Prev Effect
	1	2	3	4		
1	$d_{11}^{(1)}=e_{11}^{(0)}-\Delta a_1^{(1)}$	$d_{12}^{(1)}=e_{12}^{(0)}-\Delta a_1^{(1)}$	$d_{13}^{(1)}=e_{13}^{(0)}-\Delta a_1^{(1)}$	$d_{14}^{(1)}=e_{14}^{(0)}-\Delta a_1^{(1)}$	$\Delta a_1^{(1)}=\text{median}\left(e_{11}^{(0)},\ldots,e_{1J}^{(0)}\right)$	$a_1^{(0)}=0$
2	$d_{21}^{(1)}=e_{21}^{(0)}-\Delta a_2^{(1)}$	$d_{22}^{(1)}=e_{22}^{(0)}-\Delta a_2^{(1)}$	$d_{23}^{(1)}=e_{23}^{(0)}-\Delta a_2^{(1)}$	$d_{24}^{(1)}=e_{24}^{(0)}-\Delta a_2^{(1)}$	$\Delta a_2^{(1)}=\text{median}\left(e_{21}^{(0)},\ldots,e_{2J}^{(0)}\right)$	$a_2^{(0)}=0$
3	$d_{31}^{(1)}=e_{31}^{(0)}-\Delta a_3^{(1)}$	$d_{32}^{(1)}=e_{32}^{(0)}-\Delta a_3^{(1)}$	$d_{33}^{(1)}=e_{33}^{(0)}-\Delta a_3^{(1)}$	$d_{34}^{(1)}=e_{34}^{(0)}-\Delta a_3^{(1)}$	$\Delta a_3^{(1)}=\text{median}\left(e_{31}^{(0)},\ldots,e_{3J}^{(0)}\right)$	$a_3^{(0)}=0$
Prev Effect	$b_1^{(0)}=0$	$b_2^{(0)}=0$	$b_3^{(0)}=0$	$b_4^{(0)}=0$	$\Delta m_b^{(1)}=\text{median}\left(b_j^{(0)}\text{'s}\right)=0$	$m^{(0)}=0$

(1) iteration, step c: Find the median of each column $\Delta b_j^{(1)} = \text{med}\left(d_{1j}^{(1)},\ldots,d_{Ij}^{(1)}\right)$ and calculate $\Delta m_a^{(1)} = \text{med}\left(a_i^{(0)} + \Delta a_i^{(1)}\right)$

I	J				New med	Prev
	1	2	3	4		
1	$d_{11}^{(1)} = e_{11}^{(0)} - \Delta a_1^{(1)}$	$d_{12}^{(1)} = e_{12}^{(0)} - \Delta a_1^{(1)}$	$d_{13}^{(1)} = e_{13}^{(0)} - \Delta a_1^{(1)}$	$d_{14}^{(1)} = e_{14}^{(0)} - \Delta a_1^{(1)}$	$\Delta a_1^{(1)} = \text{median}\left(e_{11}^{(0)},\ldots,e_{1J}^{(0)}\right)$	$a_1^{(0)} = 0$
2	$d_{21}^{(1)} = e_{21}^{(0)} - \Delta a_2^{(1)}$	$d_{22}^{(1)} = e_{22}^{(0)} - \Delta a_2^{(1)}$	$d_{23}^{(1)} = e_{23}^{(0)} - \Delta a_2^{(1)}$	$d_{24}^{(1)} = e_{24}^{(0)} - \Delta a_2^{(1)}$	$\Delta a_2^{(1)} = \text{median}\left(e_{21}^{(0)},\ldots,e_{2J}^{(0)}\right)$	$a_2^{(0)} = 0$
3	$d_{31}^{(1)} = e_{31}^{(0)} - \Delta a_3^{(1)}$	$d_{32}^{(1)} = e_{32}^{(0)} - \Delta a_3^{(1)}$	$d_{33}^{(1)} = e_{33}^{(0)} - \Delta a_3^{(1)}$	$d_{34}^{(1)} = e_{34}^{(0)} - \Delta a_3^{(1)}$	$\Delta a_3^{(1)} = \text{median}\left(e_{31}^{(0)},\ldots,e_{3J}^{(0)}\right)$	$a_3^{(0)} = 0$
New med	$\Delta b_1^{(1)} = \text{med}\left(d_{11}^{(1)},\ldots,d_{I1}^{(1)}\right)$	$\Delta b_2^{(1)} = \text{med}\left(d_{12}^{(1)},\ldots,d_{I2}^{(1)}\right)$	$\Delta b_3^{(1)} = \text{med}\left(d_{13}^{(1)},\ldots,d_{I3}^{(1)}\right)$	$\Delta b_4^{(1)} = \text{med}\left(d_{14}^{(1)},\ldots,d_{I4}^{(1)}\right)$	$\Delta m_a^{(1)} = \text{med}\left(a_i^{(0)} + \Delta a_i^{(1)}\right)$	
Prev Effects	$b_1^{(0)} = 0$	$b_2^{(0)} = 0$	$b_3^{(0)} = 0$	$b_4^{(0)} = 0$	$\Delta m_b^{(1)} = \text{median}\left(b_j^{(0)}\text{'s}\right) = 0$	

Estimate the effects by

$$m^{(1)} = m^{(0)} + \Delta m_a^{(1)} + \Delta m_b^{(1)}$$

$$a_i^{(1)} = a_i^{(0)} + \Delta a_i^{(1)} - \Delta m_a^{(1)}$$

$$b_j^{(1)} = b_j^{(0)} + \Delta b_j^{(1)} - \Delta m_b^{(1)}$$

(1) iteration, step d: The cell values are updated by subtracting $\Delta b_j^{(1)} = \text{med}\left(d_{1j}^{(1)},\ldots,d_{Ij}^{(1)}\right)$

I	J				Prev Effects
	1	2	3	4	
1	$e_{11}^{(1)} = d_{11}^{(1)} - \Delta b_1^{(1)}$	$e_{12}^{(1)} = d_{12}^{(1)} - \Delta b_2^{(1)}$	$e_{13}^{(1)} = d_{13}^{(1)} - \Delta b_3^{(1)}$	$e_{14}^{(1)} = d_{14}^{(1)} - \Delta b_4^{(1)}$	$a_1^{(1)} = a_1^{(0)} + \Delta a_1^{(1)} - \Delta m_a^{(1)}$
2	$e_{21}^{(1)} = d_{21}^{(1)} - \Delta b_1^{(1)}$	$e_{22}^{(1)} = d_{22}^{(1)} - \Delta b_2^{(1)}$	$e_{23}^{(1)} = d_{23}^{(1)} - \Delta b_3^{(1)}$	$e_{24}^{(1)} = d_{24}^{(1)} - \Delta b_4^{(1)}$	$a_2^{(1)} = a_2^{(0)} + \Delta a_2^{(1)} - \Delta m_a^{(1)}$
3	$e_{31}^{(1)} = d_{31}^{(1)} - \Delta b_1^{(1)}$	$e_{32}^{(1)} = d_{32}^{(1)} - \Delta b_2^{(1)}$	$e_{33}^{(1)} = d_{33}^{(1)} - \Delta b_3^{(1)}$	$e_{34}^{(1)} = d_{34}^{(1)} - \Delta b_4^{(1)}$	$a_3^{(1)} = a_3^{(0)} + \Delta a_3^{(1)} - \Delta m_a^{(1)}$
Prev Effects	$b_1^{(1)} = b_1^{(0)} + \Delta b_1^{(1)} - \Delta m_b^{(1)}$	$b_2^{(1)} = b_2^{(0)} + \Delta b_2^{(1)} - \Delta m_b^{(1)}$	$b_3^{(1)} = b_3^{(0)} + \Delta b_3^{(1)} - \Delta m_b^{(1)}$	$b_4^{(1)} = b_4^{(0)} + \Delta b_4^{(1)} - \Delta m_b^{(1)}$	$m^{(1)} = m^{(0)} + \Delta m_a^{(1)} + \Delta m_b^{(1)}$

(2) iteration, step a: row polish by finding the median of each row

I	J 1	2	3	4	New med	Prev Effects
1	$e_{11}^{(1)}=d_{11}^{(1)}-\Delta b_1^{(1)}$	$e_{12}^{(1)}=d_{12}^{(1)}-\Delta b_2^{(1)}$	$e_{13}^{(1)}=d_{13}^{(1)}-\Delta b_3^{(1)}$	$e_{14}^{(1)}=d_{14}^{(1)}-\Delta b_4^{(1)}$	$\Delta a_1^{(2)}=\text{med}\left(e_{11}^{(1)},\ldots,e_{1J}^{(1)}\right)$	$a_1^{(1)}=a_1^{(0)}+\Delta a_1^{(1)}-\Delta m_a^{(1)}$
2	$e_{21}^{(1)}=d_{21}^{(1)}-\Delta b_1^{(1)}$	$e_{22}^{(1)}=d_{22}^{(1)}-\Delta b_2^{(1)}$	$e_{23}^{(1)}=d_{23}^{(1)}-\Delta b_3^{(1)}$	$e_{24}^{(1)}=d_{24}^{(1)}-\Delta b_4^{(1)}$	$\Delta a_2^{(2)}=\text{med}\left(e_{21}^{(1)},\ldots,e_{2J}^{(1)}\right)$	$a_2^{(1)}=a_2^{(0)}+\Delta a_2^{(1)}-\Delta m_a^{(1)}$
3	$e_{31}^{(1)}=d_{31}^{(1)}-\Delta b_1^{(1)}$	$e_{32}^{(1)}=d_{32}^{(1)}-\Delta b_2^{(1)}$	$e_{33}^{(1)}=d_{33}^{(1)}-\Delta b_3^{(1)}$	$e_{34}^{(1)}=d_{34}^{(1)}-\Delta b_4^{(1)}$	$\Delta a_3^{(2)}=\text{med}\left(e_{31}^{(1)},\ldots,e_{3J}^{(1)}\right)$	$a_3^{(1)}=a_3^{(0)}+\Delta a_3^{(1)}-\Delta m_a^{(1)}$
Prev Effects	$b_1^{(1)}=b_1^{(0)}+\Delta b_1^{(1)}-\Delta m_b^{(1)}$	$b_2^{(1)}=b_2^{(0)}+\Delta b_2^{(1)}-\Delta m_b^{(1)}$	$b_3^{(1)}=b_3^{(0)}+\Delta b_3^{(1)}-\Delta m_b^{(1)}$	$b_4^{(1)}=b_4^{(0)}+\Delta b_4^{(1)}-\Delta m_b^{(1)}$	$\Delta m_b^{(2)}=\text{med}\left(b_j^{(1)}\text{'s}\right)$	$m^{(1)}=m^{(0)}+\Delta m_a^{(1)}+\Delta m_b^{(1)}$

(2) iteration, step b: Next, the cell values are updated by subtracting the $\Delta a_1^{(2)}=\text{median}\left(e_{11}^{(1)},\ldots,e_{1J}^{(1)}\right)$ values.

I	J 1	2	3	4	New med	Prev Effects
1	$d_{11}^{(2)}=e_{11}^{(1)}-\Delta a_1^{(2)}$	$d_{12}^{(2)}=e_{12}^{(1)}-\Delta a_1^{(2)}$	$d_{13}^{(2)}=e_{13}^{(1)}-\Delta a_1^{(2)}$	$d_{14}^{(2)}=e_{14}^{(1)}-\Delta a_1^{(2)}$	$\Delta a_1^{(2)}=\text{med}\left(e_{11}^{(1)},\ldots,e_{1J}^{(1)}\right)$	$a_1^{(1)}=a_1^{(0)}+\Delta a_1^{(1)}-\Delta m_a^{(1)}$
2	$d_{21}^{(2)}=e_{21}^{(1)}-\Delta a_2^{(2)}$	$d_{22}^{(2)}=e_{22}^{(1)}-\Delta a_2^{(2)}$	$d_{23}^{(2)}=e_{23}^{(1)}-\Delta a_2^{(2)}$	$d_{24}^{(2)}=e_{24}^{(1)}-\Delta a_2^{(2)}$	$\Delta a_2^{(2)}=\text{med}\left(e_{21}^{(1)},\ldots,e_{2J}^{(1)}\right)$	$a_2^{(1)}=a_2^{(0)}+\Delta a_2^{(1)}-\Delta m_a^{(1)}$
3	$d_{31}^{(2)}=e_{31}^{(1)}-\Delta a_3^{(2)}$	$d_{32}^{(2)}=e_{32}^{(1)}-\Delta a_3^{(2)}$	$d_{33}^{(2)}=e_{33}^{(1)}-\Delta a_3^{(2)}$	$d_{34}^{(2)}=e_{34}^{(1)}-\Delta a_3^{(2)}$	$\Delta a_3^{(2)}=\text{med}\left(e_{31}^{(1)},\ldots,e_{3J}^{(1)}\right)$	$a_3^{(1)}=a_3^{(0)}+\Delta a_3^{(1)}-\Delta m_a^{(1)}$
Prev Effects	$b_1^{(1)}=b_1^{(0)}+\Delta b_1^{(1)}-\Delta m_b^{(1)}$	$b_2^{(1)}=b_2^{(0)}+\Delta b_2^{(1)}-\Delta m_b^{(1)}$	$b_3^{(1)}=b_3^{(0)}+\Delta b_3^{(1)}-\Delta m_b^{(1)}$	$b_4^{(1)}=b_4^{(0)}+\Delta b_4^{(1)}-\Delta m_b^{(1)}$	$\Delta m_b^{(2)}=\text{med}\left(b_j^{(1)}\text{'s}\right)$	$m^{(1)}=m^{(0)}+\Delta m_a^{(1)}+\Delta m_b^{(1)}$

(2) iteration, step c: column polish by finding the median of each column

I	J 1	2	3	4	New med	Prev Effects
1	$d_{11}^{(2)}=e_{11}^{(1)}-\Delta a_1^{(2)}$	$d_{12}^{(2)}=e_{12}^{(1)}-\Delta a_1^{(2)}$	$d_{13}^{(2)}=e_{13}^{(1)}-\Delta a_1^{(2)}$	$d_{14}^{(2)}=e_{14}^{(1)}-\Delta a_1^{(2)}$	$\Delta a_1^{(2)}=\text{median}\left(e_{11}^{(1)},\ldots,e_{1J}^{(1)}\right)$	$a_1^{(1)}$
2	$d_{21}^{(2)}=e_{21}^{(1)}-\Delta a_2^{(2)}$	$d_{22}^{(2)}=e_{22}^{(1)}-\Delta a_2^{(2)}$	$d_{23}^{(2)}=e_{23}^{(1)}-\Delta a_2^{(2)}$	$d_{24}^{(2)}=e_{24}^{(1)}-\Delta a_2^{(2)}$	$\Delta a_2^{(2)}=\text{median}\left(e_{21}^{(1)},\ldots,e_{2J}^{(1)}\right)$	$a_2^{(1)}$
3	$d_{31}^{(2)}=e_{31}^{(1)}-\Delta a_3^{(2)}$	$d_{32}^{(2)}=e_{32}^{(1)}-\Delta a_3^{(2)}$	$d_{33}^{(2)}=e_{33}^{(1)}-\Delta a_3^{(2)}$	$d_{34}^{(2)}=e_{34}^{(1)}-\Delta a_3^{(2)}$	$\Delta a_3^{(2)}=\text{median}\left(e_{31}^{(1)},\ldots,e_{3J}^{(1)}\right)$	$a_3^{(1)}$
New med	$\Delta b_1^{(2)}=\text{med}\left(d_{11}^{(2)},\ldots,d_{I1}^{(2)}\right)$	$\Delta b_2^{(2)}=\text{med}\left(d_{12}^{(2)},\ldots,d_{I2}^{(2)}\right)$	$\Delta b_3^{(2)}=\text{med}\left(d_{13}^{(2)},\ldots,d_{I3}^{(2)}\right)$	$\Delta b_4^{(2)}=\text{med}\left(d_{14}^{(2)},\ldots,d_{I4}^{(2)}\right)$	$\Delta m_a^{(2)}=\text{med}\left(a_i^{(1)}+\Delta a_i^{(2)}\right)$	
Prev Effects	$b_1^{(1)}$	$b_2^{(1)}$	$b_3^{(1)}$	$b_4^{(1)}$	$\Delta m_b^{(2)}=\text{median}\left(b_j^{(1)}\text{'s}\right)$	$m^{(1)}$

Estimate the effects by

$$m^{(2)}=m^{(1)}+\Delta m_a^{(2)}+\Delta m_b^{(2)}$$
$$a_i^{(2)}=a_i^{(1)}+\Delta a_i^{(2)}-\Delta m_a^{(2)}$$
$$b_j^{(2)}=b_j^{(1)}+\Delta b_j^{(2)}-\Delta m_b^{(2)}$$

(2) iteration, step d: The cell values are updated by subtracting $\Delta b_j^{(2)}=\text{med}\left(d_{1j}^{(2)},\ldots,d_{Ij}^{(2)}\right)$. $m^{(2)}$ is the main effect, $a_i^{(2)}$ are the row effects, $b_j^{(2)}$ are the column effects, and $e_{ij}^{(2)}$ are the residuals.

I	J 1	2	3	4	Prev Effects
1	$e_{11}^{(2)}=d_{11}^{(2)}-\Delta b_1^{(2)}$	$e_{12}^{(2)}=d_{12}^{(2)}-\Delta b_2^{(2)}$	$e_{13}^{(2)}=d_{13}^{(2)}-\Delta b_3^{(2)}$	$e_{14}^{(2)}=d_{14}^{(2)}-\Delta b_4^{(2)}$	$a_1^{(2)}=a_1^{(1)}+\Delta a_1^{(2)}-\Delta m_a^{(2)}$
2	$e_{21}^{(2)}=d_{21}^{(2)}-\Delta b_1^{(2)}$	$e_{22}^{(2)}=d_{22}^{(2)}-\Delta b_2^{(2)}$	$e_{23}^{(2)}=d_{23}^{(2)}-\Delta b_3^{(2)}$	$e_{24}^{(2)}=d_{24}^{(2)}-\Delta b_4^{(2)}$	$a_2^{(2)}=a_2^{(1)}+\Delta a_2^{(2)}-\Delta m_a^{(2)}$
3	$e_{31}^{(2)}=d_{31}^{(2)}-\Delta b_1^{(2)}$	$e_{32}^{(2)}=d_{32}^{(2)}-\Delta b_2^{(2)}$	$e_{33}^{(2)}=d_{33}^{(2)}-\Delta b_3^{(2)}$	$e_{34}^{(2)}=d_{34}^{(2)}-\Delta b_4^{(2)}$	$a_3^{(2)}=a_3^{(1)}+\Delta a_3^{(2)}-\Delta m_a^{(2)}$
Prev Effects	$b_1^{(2)}=b_1^{(1)}+\Delta b_1^{(2)}-\Delta m_b^{(2)}$	$b_2^{(2)}=b_2^{(1)}+\Delta b_2^{(2)}-\Delta m_b^{(2)}$	$b_3^{(2)}=b_3^{(1)}+\Delta b_3^{(2)}-\Delta m_b^{(2)}$	$b_4^{(2)}=b_4^{(1)}+\Delta b_4^{(2)}-\Delta m_b^{(2)}$	$m^{(2)}=m^{(1)}+\Delta m_a^{(2)}+\Delta m_b^{(2)}$