An Example of Method-1 for $\mathbf{u} := \mathbf{u} - \lambda\mathbf{v}$

$\mathbf{u}$:

2	3	8
1.0	-1.0	2.0

	1.0	-1.0					2.0

$\lambda = 2$

$\mathbf{v}$:

3	6	8
1.0	-1.0	2.0

		1.0			-1.0		2.0

1. Scatter $\mathbf{v}$ into $\mathbf{w}$:

$\mathbf{w}$:

0.0	0.0	1.0	0.0	0.0	-1.0	0.0	2.0

2. For each entry u_i check w_i. If $w_i \neq 0 \Rightarrow \ u_i := u_i - \lambda w_i$; set $w_i := 0$.

$\mathbf{u}$:

2	3	8
1.0	-3.0	-2.0

$\mathbf{w}$:

0.0	0.0	0.0	0.0	0.0	-1.0	0.0	0.0

3. For each entry v_i check w_i. If $w_i \neq 0 \Rightarrow$ **fill-in**; $u_i := -\lambda w_i$; set $w_i := 0$.

$\mathbf{u}$:

2	3	8	6
1.0	-3.0	-2.0	2.0

$\mathbf{w}$:

0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0