

Loop over all substructures

for $s = 1, \dots, N$ *do*

Convergence indicator

$$t_i^s = \frac{\langle \mathbf{W}_i \boldsymbol{\alpha}_i, \mathbf{F}^{[s]} \mathbf{W}_i \boldsymbol{\alpha}_i \rangle}{\mathbf{r}_{i+1}^T \mathbf{S}^{[s]} \mathbf{r}_{i+1}}$$

Sort in ascending order

$\text{sort}(\mathbf{t}_i)$

Sort substructure index vector in the same way

For $b=1:\text{numblocks}$

For the current block b *of substructure indices*

Add up search directions

$$\mathbf{z}_{i+1}^b = \mathbf{z}_{i+1}^b + \mathbf{S}^{[s]} \mathbf{r}_{i+1}$$

Concatenate blockwise search directions

$$\mathbf{Z}_{i+1} = [\mathbf{z}_{i+1}^1 | \dots | \mathbf{z}_{i+1}^{\text{numblocks}}]$$