Input: Polyhedron C

Output: Set I of all the not-true inequalities of C

1 **let** $I \leftarrow \emptyset$; $\mathcal{M} \leftarrow \{1, \ldots, m\}$;

2 **while** $\mathcal{M} \neq \emptyset$,

3 **let** $j \leftarrow$ first element of $\mathcal{M}$;

4 **let** $\mathcal{M} \leftarrow \mathcal{M} \setminus \{j\}$;

5 solve the following LP problem:

$$\begin{aligned} &\min \ B_j \xi \\ &s.t. \ B_i \xi \leq v_i, \ \forall i \in \mathcal{M} \end{aligned}$$

and **let** ξ^* be an optimizer;

6 **if** $B_j \xi^* = v_j$ **then** $I \leftarrow I \cup \{j\}$;

7 **for** $h \in \mathcal{M}$,

8 **if** $B_h x^* < v_h$ **then** $\mathcal{M} \leftarrow \mathcal{M} \setminus \{h\}$;

9 **end** ;

10 **end** .