



**Main result**

Let  $(b_i)_{i \in I}$  be a family in  $\mathbf{R}^n$  and  $(\beta_i)_{i \in I}$  be a family in  $\mathbf{R}$ . The set

$$\{x \in \mathbf{R}^n \mid \langle x, b_i \rangle \leq \beta_i \text{ for all } i \in I\}$$

is convex.

A *polyhedral* convex set is one which can be expressed as the intersection of a finite family of closed halfspaces.



