

Table 1: Table of Notation conventions

type	description	common example
optimization variable (scalar)	lower-case letter	$\alpha, \beta$
optimization variable (vector)	boldface lower-case letter with <code>\bm</code>	$\mathbf{x}, \mathbf{y}$
optimization variable (matrix)	boldface upper-case letter with <code>\bm</code>	$\mathbf{A}, \mathbf{B}$
element	subscript	$\mathbf{x}_i, \mathbf{A}_{ij}$
column vector	comma separated parentheses tuple	$(1, 2, 3)$
row vector	space separated square bracket list	$(1, 2, 3) = [1 \ 2 \ 3]^\top$
random variable	upper-case letter	$X, Y$
common set	upper-case letter with <code>\mathbb</code>	$\mathbb{R}, \mathbb{Z}$
set	upper-case letter with <code>\mathcal</code>	$\mathcal{S}, \mathcal{T}$
function	lower-case letter	$f, g : \mathbb{R}^n \rightarrow \mathbb{R}^m$