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0.1 Slater's condition

0.1.1 Strong duality

Strong duality is where the duality gap is 0.

0.1.2 Slater's condition

Slater's condition says that strong duality holds if there is an input where the inequality constraints are satisified strictly.

That is they are $g(x) < 0$, not $g(x) \leq 0$

This means that the conditions are slack.

This only applies if the problem is convex. That is, if Slater's condition holds, and the problem is convex, then strong duality holds.