1.1.1

On Feasibility Sets and Points - Given an objective function with constraints, the feasible region or feasible set are the set of all points that satisfiy all constraints. The feasible set is denoted by S in our text.

A feasible point $\bar{x}$ in an inequality constraint $g_i(\bar{x})$ is said to be binding or active if $g_i(\bar{x}) = 0$, this is also called being on the boundary of the constraint.

Likewise a feasible point is said to be unbinding or inactive if $g_i(\bar{x}) > 0$ or $g_i(\bar{x}) < 0$, this is called being interior of the constraint.

On optimization problems in general - There really isn't any difference between minimization and maximization problems the problem

$$\max_{x \in S} \tag{1}$$