Lesson 35. Constrained Optimization, cont.

Example 1. Find the absolute maximum and minimum values of $f(x, y) = xy^2$ on $C = \{(x, y) \mid x \geq 0, y \geq 0, x^2 + y^2 \leq 4\}$.

Example 2.

(a) Find the volume of the largest rectangular box in the first octant with three faces in the coordinate planes and one vertex in the plane $x + 2y + 3z = 6$.

OR

(b) Find the absolute maximum and minimum values of $f(x, y) = 2x^3 + y^4$ on $C = \{(x, y) \mid x^2 + y^2 \leq 1\}$.