

Karush-Kuhn-Tucker Equations for Inequality Constraints

Solve for the optimum to the following problem using the KKT conditions,

$$\text{Min } f = x_1^2 + 2x_2^2 + 3x_3^2$$

$$\text{s.t. } g_1 = -5x_1 + x_2 + 3x_3 \leq -3$$

$$g_2 = 2x_1 + x_2 + 2x_3 \geq 6$$