

Consider the following objective and constraint

$$f(x) = x_1^2 + 2x_2^2 + 3x_3^2$$

$$g(x) = x_1 + x_2 + x_3 \leq 3.5$$

But the variables x are uncertain (normally distributed). At the point: $x = [1, 1, 1]$, the standard deviation is: $\sigma_x = [0.0, 0.06, 0.2]$

Compute:

- 1) mean and stdev of f (optionally look at a histogram)
- 2) reliability of g

randn, mean, std, nnz, histogram