Q-11

want $f(x_2 \mid x_3, \ldots, x_k)$

slides give $f(x_1, x_2 \mid x_3, \ldots, x_k)$

as $Multi(m, \vec{\xi})$

$\vec{\xi} = (\xi_1, \xi_2)$

$\rightarrow Bin(m, \xi_2)$

$\varphi - 12$

$$f(x_1, \ldots, x_n) = \prod_{i=1}^{n} \frac{\mu^{x_i}}{x_i!} e^{-\mu_i}$$

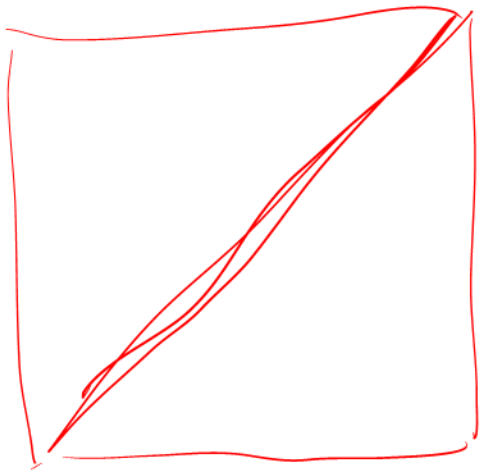
$$w = \sum_{i=1}^{n} x_i$$

$$\| \qquad\qquad \|$$

$$f(x_1, \ldots, x_n, w)$$

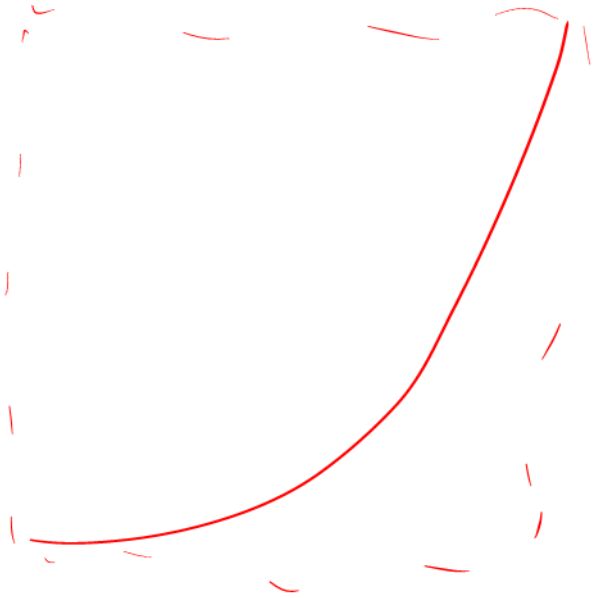
$$X \sim \text{Unif}(0,1)$$

$$\vec{V} = (X, X)$$



← support of $\vec{V}$ (diagonal line)

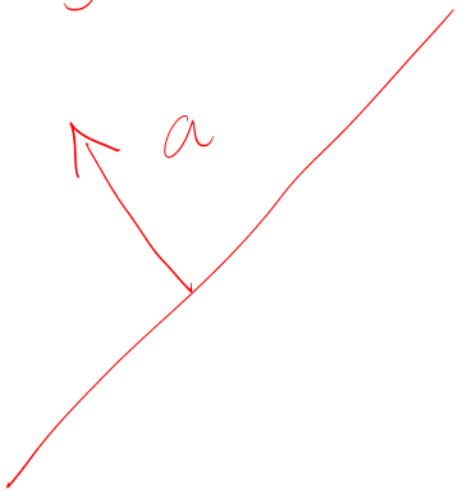
$$\vec{r} = (x, x^2)$$



$a^T \vec{Y} = c$ almost surely

$$H = \{ y : a^T y = c \}$$

is hyperplane



$$a_1 Y_1 + a_2 Y_2 + \cdots + a_n Y_n = C$$

$$a_i Y_i = C - \sum_{\substack{j=1 \\ j \neq i}}^{n} a_j Y_j$$

$$Y_i = \frac{C}{a_i} - \sum_{\substack{j=1 \\ j \neq i}}^{n} \frac{a_j Y_i}{a_i}$$