

QUANTITATIVE METHODS

Martin Huard

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LAB 7

Discrete Probability Distributions

Example

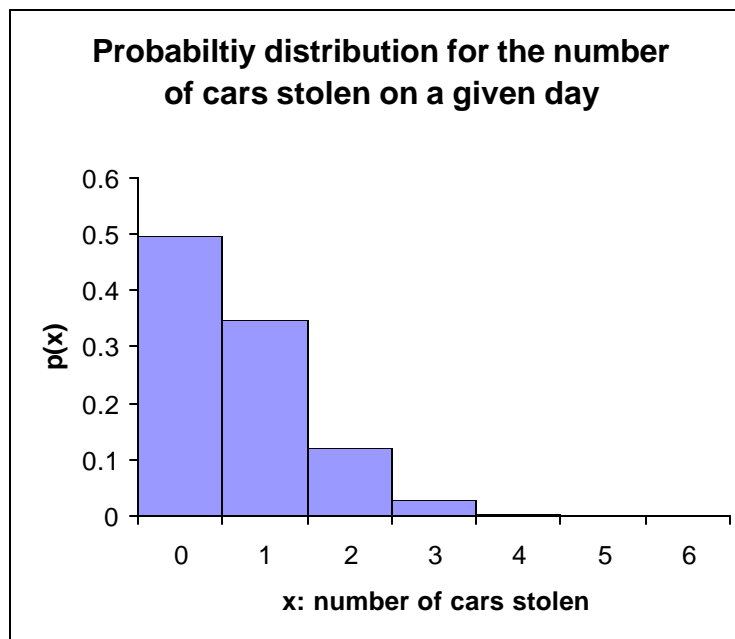
Consider the following probability distribution, where x represents the number of cars stolen in a city on a given day.

x	$p(x)$
0	0.4966
1	0.3476
2	0.1217
3	0.0284
4	0.0050
5	0.0006
6	0.0001

Make the usual heading (cells A1:A3) and labeling sheet 1 "Example".

Copy the above probability distribution in cells A6:B13

Sketch the probability histogram for the above distribution. The results should be



Let us now find the mean and standard deviation. For this, complete the following table (on Excel) where the shaded spaces are results you should obtain using formulas.

x	$p(x)$	$xp(x)$	$x^2p(x)$
0	0.4966		
1	0.3476		
2	0.1217		
3	0.0284		
4	0.0050		
5	0.0006		
6	0.0001		

From this, find the mean and standard deviation in cell B16 and B17. The results should be, in cells A16:C17.

$$\mu = 0.700 \text{ cars stolen}$$

$$s = 0.836 \text{ cars stolen}$$