

2015-09-03
Wednesday, September 02, 2015
22:37

Group 1

Session 1: Basics

(a) Jank book

(b) R functions

b.1. Graphics

b.2

Ex. Binomial distribution



Pasted from
<<http://profs.degroote.mcmaster.ca/ads/parlar/courses/MasterOfFinance-R/Session-1/index.html>>

$$X \sim \text{Bin} \left(\overset{3}{n}, \overset{.4}{p} \right)$$

$$\Pr(X=2) = ?$$

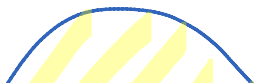
$$\begin{aligned} \Pr(X=k) &= \binom{n}{k} p^k (1-p)^{n-k}, \quad k=0,1,\dots,n \\ &= \binom{3}{2} (.4)^2 (.6)^1 = .288 \end{aligned}$$

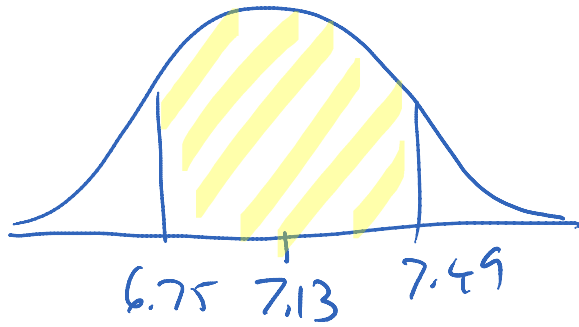
	Probability
0	0.216
1	0.432
2	<u>0.288</u>
3	0.064

Ex Normal

$$X \sim N(\mu, \sigma)$$

$$\mu = 7.13, \quad \sigma = 0.27$$





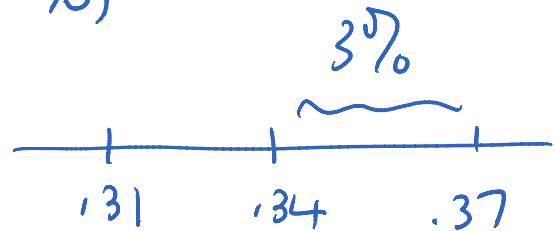
$$Pr(6.75 < X < 7.49)$$

> 0.90878878 - 0.07965331
 [1] 0.8291355

(c) Conf. Interval

$n = 1000$, $x = 340$ (liberals)

$$\hat{p} = \frac{340}{1000} = .34 \text{ (34\%)}$$



prop.test(340,1000)

Pasted from <http://profs.degroote.mcmaster.ca/ads/parlar/courses/MasterOfFinance-R/Session-1/index.html>

95 percent confidence interval:

0.3108142 0.3704312

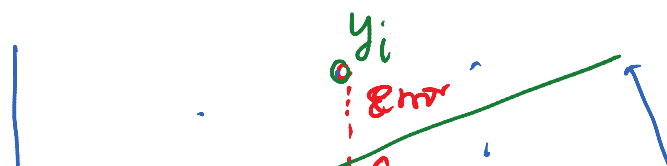
sample estimates:

p
 0.34

Session 2. Regression

(a) Basics

a.1 Sales vs. adv.



$$Y = \beta_0 + \beta_1 X + \epsilon$$

Ex. Two variables
See web notes