HW4

Example 4

Y,,...Yn ~ Poisson (x)

Eyi -> sufficient for a

$$L(\lambda) = \frac{1}{1} \left(\frac{e^{-\lambda} \lambda^{y_1}}{y_1!} \right)$$

 $= \frac{e^{-n\lambda} + y_i}{1 + y_i} + h(y_i)$

 $g(u, 0) = e^{-n\lambda} \lambda^{2}y^{2}$

U= Zyi = sufficient stanishic

Example 6

e

$$E(v) = E(Ey;) = nE(y;)$$

$$= n \Theta$$

$$we want E(e) = \Theta^{2}/n$$

$$Var(y) = \Theta^{2}/n$$

$$E(y^{2}) = \frac{e^{3}}{n} + \Theta^{2}$$

$$= nE(y; -y)^{2}$$

$$= (\frac{1}{2}y^{2} + \frac{1}{2}y^{2} - 2y; y)$$

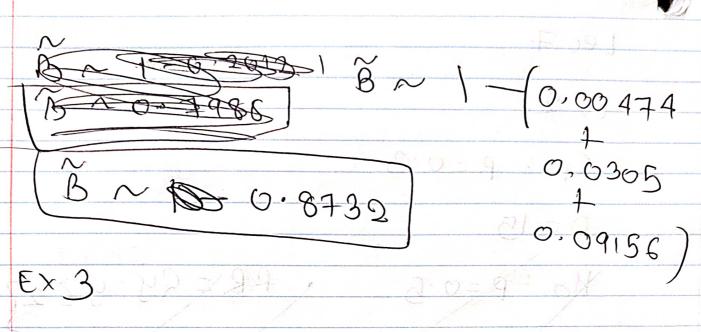
$$= (\frac{1}{2}y^{2} + \frac{1}{2}y$$

Ex 9

$$y_i \sim \exp(\theta)$$
 $f_y(y_1\theta) = \frac{1}{\theta}e^{-\frac{y_1}{\theta}\theta}$
 $L(\theta) = \frac{1}{\theta}e^{-\frac{y_1}{\theta}\theta}$
 $I(\theta)=\log L(\theta) = -\frac{y_1}{\theta}e^{-\frac{y_1}{\theta}\theta}$
 $\frac{dI}{d\theta} = \frac{y_1}{\theta^2} - \frac{n}{\theta} = 0$
 $0 = \frac{y_1}{\theta}e^{-\frac{y_1}{\theta}\theta}$
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Variety

Lec 7 EX 2. C1: P=0.3 B = R (a cept No when Ha true P/y > when p =0.3) B= P(accent No when Ma true) = P(Y > 2 when p = 0.3)P/462 when POO.3 $\frac{1-\left(15C_{0}(0.3)^{0}(0.7)^{15}+15C_{1}(0.3)^{1}(0.7)^{14}+15C_{2}(0.3)^{2}(0.7)^{14}+15C_{2}(0.3)^{2}(0.7)^{13}\right)}{1-\left(0.7\right)^{13}\left((0.7)^{2}+15(0.3)(0.7)+15x14(0.3)^{2}\right)}$



$$= \frac{5}{5} \frac{15}{(0.5)^{1}} \frac{(0.5)^{15-1}}{(0.5)^{15-1}}$$

1300 B~0.27837 EX 7 Mo: 4 = 15 M Ma= 16 8 02 9 X=B=0.0G $R = u\alpha - ZB G$ $N = (2x + 2B)^2 \sigma^2$ (Ma - Mo)2 20.05 ~ 1.645 (one tailed text) n should be N= (1/645+1/645)29 at least 9 g $(16-15)^2 = 9 \times (0.824)$ ~ 97-4169-