

Discussion 10

Fall 2014

Date: Wednesday, November 5, 2014

Problem 1. Solve a hypothesis testing problem with probability of false alarm at most β in the following setting. Given that $X = 0$, Y is uniformly distributed between 0 and 1. Given that $X = 1$, Y has the distribution

$$f(y|1) = 3/2 \times 1\{0 \leq y \leq 1/2\} + 1/2 \times 1\{1/2 \leq y \leq 1\}.$$

Problem 2. Let X_1, X_2, \dots, X_n be i.i.d. geometric random variables with parameter p . Find $MLE[p|X_1, X_2, \dots, X_n]$.