BM5163 Bayesian Inference in Bioengineering

Problem Set 3

Instructions

1. You are expected to work on these problems on your own and not submit the solutions.

Questions

1. Show that Jeffreys prior for the mean parameter θ of a Poisson likelihood is given by $\sqrt{\theta}$.

2. Let x be uniformly distributed given θ on $[0, \theta]$, find the conjugate distribution for $p(x|\theta) = 1/\theta$.

3. Derive Jeffreys prior for multinomial distribution.