Exercício MAE 5748

13. Let $X_1, \ldots, X_n$ a.a. de $X \sim EXP(\lambda)$. Queremos testar $H_0 : \lambda = 1.0$ vs $H_1 : \lambda \neq 1.0$. Considere a priori $\lambda | H_1 \sim Gamma(3, 3)$. Para $n = 4$, $\bar{x} = 1.4$, $p_0 = 1/2$, calcule $P[H_0|x]$, e o fator de Bayes.

14. Considere o modelo exponencial com parametro α com distribuição $Gama(\alpha, \lambda)$. Verique que a distribuição marginal de X é Pareto (veja Turnbull et a. 1976, JASA). Estime os parâmetros do modelo usando o método de laplace. Considere os dados os dados

tempo1< −c(0.0301,0.0384,0.0630,0.0849,0.0877,0.0959,0.1397,
0.1616,0.1699,0.2137,0.2137,0.2164,0.2384,0.2712,0.2740,
0.3863,0.4384,0.4548,0.5918,0.6,0.6438,0.6849,0.7397,
0.8575,0.9096,0.9644,1.0082,1.2822,1.3452,1.4,1.5260,1.7205,
1.9890,2.2438,2.5068,2.6466,3.0384,3.1726,3.4411,4.4219,
4.4356,4.5863,4.6904, 4.7808,4.9863,5)

Variavel indicando falha (recorrncia) ou censura:

cens1< −c(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,
1,1,1,1,1,1,1,1,0,0,1,0,0,0,0,1,0,0,0,0,0,0,0)