Stat3001 Assignment 1

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Q1

Q2

Q3

We have the density:

$$f(x,y,z) \propto \binom{z}{y} x^{\alpha+y-1}(1-x)^{\beta+z-y-1}\frac{\gamma^z}{z!}$$

For $0 < x < 1$, $y = 0, 1, 2, ..., z$, and $z = 0, 1, 2, ...$, and where $\alpha > 0$, $\beta > 0$ and $\gamma > 0$ are constants.

We want to derive a Gibbs sampler.

$$f_1(x|y,z) = \frac{f(x,y,z)}{f(y,z)}$$