Lab Assignment - 7

Instructor: Dr. Arabin Kumar Dey

1 Due date:

- 8/3/2013.

2 Notes:

- Make a proper documentation preferably in latex or using some other software and submit the printout of the report in .pdf form.
- Each student needs to write his/ her own solutions, even though discussions of the assignments between students are encouraged.
- Use all codes in R.

3 Assignments:

1. Generate 50 randam numbers from geometric distribution of the form :

$$f(x;p) = pq^{i-1} \qquad i = 1, 2, \cdots \qquad 0 < p < 1.$$

   Draw the probability mass function.

2. Generate 50 random numbers from poisson distribution with mean 2. Draw the probability mass function and the cumulative distribution function.

3. Draw the histogram based 50 generated random numbers from the mixture of two Weibull distributions :

$$f(x;\beta_1,\theta_1,\beta_2,\theta_2,p) = pf_1(x;\beta_1,\theta_1) + (1-p)f_2(x;\beta_2,\theta_2)$$

where $f_1(\cdot)$ and $f_2(\cdot)$ are two Weibull distributions of the form : $f(x;\beta,\theta) = \beta\theta^{\beta}x^{\beta-1}e^{-(\theta x)^{\beta}}$

where, $\beta_1 = 2, \theta_1 = 1, \beta_2 = 1.5, \theta_2 = 1, p = 0.4$