Reading: All of Ch. 7 except 7.2.4 (EM algorithm)

Background reading: Section 5.3, pages 218--220
and Section 5.5, pages 232--236
and Section 10.1, pages 467-468

Exercises in Chapter 7:

1, 4, 6--13, 19--24
37, 38, 40, 42, 46, 47, 49, 50, 52, 57, 59, 60

Comments and Additional Parts for the Chapter 7 Exercises:

22 and 24: Add another part to these two problems:
Show that when the sample size n is large the
Bayesian (reporting the posterior mean and variance)
will be essentially in agreement with the non-Bayesian
(reporting the MLE and its estimated variance).

50: In part (b) use the result of problem 42.

38(a): Also, compute the CR bound explicitly.
(The computation of the CR bound in (b)
is somewhat messy.)

Extra Problems:

Figure out the MOM estimates of the parameters alpha, beta of a Gamma distribution based upon a random sample of size n. Do this for:

(1) alpha (when beta is known),
(2) beta (when alpha is known), and
(3) alpha and beta (both are unknown).

You should be able to compute Fisher Information and CR bounds for the common families of distributions.

Find the Fisher information matrix for a k-parameter exponential family with the natural parameter w(theta)=theta.