Stat 543 Assignment 2 (due Friday February 5, 2016)
Sufficiency

1. Problem 2 from Assignment 1.

2. Problems 1.311, 1.3.12 from Assignment 1.

3. Required Problems: 1.5.1, 1.5.2, 1.5.3, 1.5.7, 1.5.9, 1.5.11

4. Consider the 4-class discrete statistical model with pmfs $f(x|\theta)$ given in the table below.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
$\theta = 4$	.05	.1	0	.05	.2	0	.1	.05	0	.1	.05	.1	0	.2
$\theta = 3$	0	.05	.1	0	.1	0	0	.05	.1	.1	0	.1	.2	.2
$\theta = 2$	0	.1	0	.05	.2	.25	.1	.05	0	.1	0	.05	0	.1
$\theta = 1$	.1	.05	.05	0	.1	.1	0	.05	.1	.1	0	.05	.2	.1

Identify a minimal sufficient statistic here.

5. Optional (not required but recommended) Problem: 1.5.5, 1.5.16

6. Optional (not required but recommended):

   Prove (using the factorization theorem, the equivalence of the factorization and likelihood ratio criteria, and the theorem stated in class providing a condition guaranteeing minimality of a sufficient statistic) the result stated in class identifying a K-dimensional minimal sufficient statistic in any K-class problem.