Written Assignment # 6

Your paper should have the following information on it.

- Your name
- Your student ID number
- Which section you are in: 02 MWF, or 04 TTh

Specifications for Grading

To earn a passing mark, your assignment must:

- be typed, and no more than three pages in length. Diagrams may be hand drawn.
- address the writing prompts below.
- conform to reasonable standards for grammar, spelling, and usage of the English language with minimal errors. (You may consider seeking help on writing from the Writing Center in the Academic Learning Center. http://www.uni.edu/unialc/writing-center)
- be turned in by 3pm on Friday, February 26.

All of the tasks here require you to compute some sort of probability. I suggest that you find a way to make a decision tree, or some other model of the sample space, to help your thinking.

Warm-Ups

Task 1. How many ways can you select a set of three cards from a regular deck of 52 cards? (Note: the order in a set doesn't matter.)

Task 2. Suppose you deal a set of three cards from a regular deck of 52 cards. What is the probability that they will all be jacks?

Important Life Questions

Task 3. You have 65 movies in your NetFlix list. In how many ways can you order them? (Note: please don't try to write a final number. Just write down an expression which would let us compute the number if we had enough time.)

Task 4. You are spending the weekend at a friend's parents' house. You need to pack 3 pairs of underwear, and have 10 clean pairs of underwear of all different colors. How many different triples of underwear can you pull out to impress your friends parents?

Challenges

Task 5. You want to have a different breakfast every morning. Each day you choose exactly three of the following items: eggs, bagel, pancakes, coffee, orange juice. How many days can you go before you must eat a breakfast combination that you have already had?

Task 6. You roll a pair of dice 24 times. What is the probability of seeing at least one total that is 11?

Prof. Hitchman