CS 3333 Mathematical Foundations Spring '11

Recitation 11 Practiced on: 3/30 5:30 - 6:20 pm

6.1 An Introduction to Discrete Probability

Note: These problems are designed for practice during a 50 minute recitation.

a) **Easy** problems: expected to be solved in *5 min*.
b) **Medium** problems: expected to be solved in *30 min*.
c) **Hard** problems: expected to be solved in *15 min*.

During the recitation, you may discuss the problems with your peers and the TA. Please control your volume and don't annoy others. An electronic copy of these problems and solutions will be posted on the following URL: http://cs.utsa.edu/~btang/pages/teaching.html.

Questions:

1. (Easy, 2 min) What is the probability that a card selected from a deck is an ace? (Textbook [KR] Page 398: 1)
2. (Easy, 3 min) What is the probability that a five-card poker hand does not contain the queen of hearts? (Textbook [KR] Page 398: 9)
3. (Medium, 10min) What is the probability that a die never comes up an even number when it is rolled six times?? (Textbook [KR] Page 399: 21)
4. (Medium, 10 min) What is the probability that a positive integer not exceeding 100 selected at random is divisible by 5 or 7? (Textbook [KR] Page 399: 23)
5. (Medium, 10min) In a superlottery, players win a fortune if they choose the eight numbers selected by a computer from the positive integers not exceeding 100. What is the probability that a player wins this superlottery? (Textbook [KR] Page 399: 29)
6. (Hard, 15 min) Which is more likely: rolling a total of 9 when two dice are rolled or rolling a total of9 when three dice are rolled? (Textbook [KR] Page 399: 37)

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