BOOLEAN DECISION TREES:
PROBLEMS AND RESULTS, OLD AND NEW

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ABSTRACT:

Boolean decision trees are perhaps the simplest algorithmic model for computing boolean functions. In this model, the cost of a computation is simply the number of input bits that are accessed. There is a natural notion of a randomized decision tree, which makes use of randomness in choosing which input bits to look at. As with any model of computation, a primary goal of the research is to obtain upper and lower bounds for specific functions and general classes of functions. The methods are quite varied, including adversary arguments, algebraic/combinatorial topology, information theory, and fourier analysis.

In this talk, I will give a selective overview of past results, open problems and recent results in this area.

MONDAY, MARCH 13, 2006
4:30 PM
Building 2, Room 105

Reception at 4:00 PM in Building 4, Room 174.
(Math Majors Lounge)