Stochastic Dominance Class Problem
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Consider two risky prospects, X_l and X_2, with payoffs given by:

$$X_{1,s} = \begin{cases} \$1 \text{ with probability } 50\% \\ \$9 \text{ with probability } 50\% \end{cases} \text{ and } X_{2,s} = \begin{cases} \$4 \text{ with probability } 99\% \\ \$81 \text{ with probability } 1\% \end{cases}$$

Assume that your initial wealth (W_0) is \$0, and your utility $U(W) = \sqrt{W}$.

A. Does one investment first order stochastically dominate the other? Explain why or why not.

B. Compare these investments once again. Does one investment second order stochastically dominate the other? Explain why or why not.

C. Calculate your expected utility ($E(U(W))$) for both investments.

D. Which investment should you choose? Explain why.