

Think It Over



This section of *Resonance* presents thought-provoking questions, and discusses answers a few months later. Readers are invited to send new questions, solutions to old ones and comments, to 'Think It Over', *Resonance*, Indian Academy of Sciences, Bangalore 560 080. Items illustrating ideas and concepts will generally be chosen.

Are you Better off than Your Friend?

There are two friends A1 and A2 and two boxes B1 and B2. One box has twice as much money as the other one. Neither A1 nor A2 knows which one has more money. The friends decide that they will toss a fair coin. If it is heads A1 will get B1 and A2 will get B2 and if it is tails A1 will get B2 and A2 will get B1.

After the boxes are selected but before they are opened A1 suggests to A2 that they should exchange the boxes as it is "good" for both of them in the sense that the ratio of the amount after exchange to before exchange has an average value greater than one. Is A1 right?

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Coin toss.



