

Anyone interested in being paid to find a solution to a commercial problem?

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We are software developers for the vacation rental business. We need to code an availability search (in Microsoft SQL Server) to find the cheapest combination of properties that will accommodate a given capacity. Testing all possible combinations is not an option as forty properties will yield roughly a trillion combinations. We have got to the point where we take each property in turn, starting with the cheapest in terms of cost per head, and then adding the next cheapest and so on, until greater than or equal to the required capacity is reached. If that capacity is reached EXACTLY, we then have a solution. So far so good. But if we have gone over the required capacity, there is a possibility that a different mix with a lower capacity will be cheaper, even if the cost per head of capacity is higher, as a result of the spare capacity in going over what is required rather than matching it exactly.

We also need to be able to implement a solution WITHIN SQL Server as it is extremely complex and difficult to call external software (we have attempted unsuccessfully to do this with commercial linear programming solutions).

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