

# sampling algorithm based on indexed constrains

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I know this might not exactly be a question to this newsgroup, but, again, I don't know how to solve this type of problems. I need to understand it well, because I see myself using this a lot

I have been thinking about an implementation of a sampling algorithm that would conditionally constrain selections preferably in Java (ANSI C/C++ are fine, too).

Say, you have a number of items you may conditionally select. Cases would be:

- 1.\_ you may select any and any number of them,
- 2.\_ you may select any, but only a given number of them, say 1, 2 or 3
- 3.\_ you either select the first or second and any other one,
- 4.\_ you may select any as long as the total of certain weight remains in a range
- 5.\_ you –must– select all
- ..

As you can see it is not only about the items themselves but there are also aggregations involved.

It would pretty much be like an indexing of possible WHERE clauses in SQL. I could imagine other people have stumbled on these kinds of problems before.

I have been thinking about implementing a solution to the problem based on the "language (or grammar how is it called?) pattern" using the knapsack algorithm to try keep things tidy.

I did search and could not find anything similar to what I was looking for. Maybe you know of something like this or can avail me of some leads in the right direction.