

Re: Help: How to combine all 4's into least 6's– Is there a way to calculate what the minimum of 6's will be?

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Source: <http://sci.tech–archive.net/Archive/sci.math/2006–01/msg04467.html>

- *From:* "mensanator@xxxxxxxxxxxx" <mensanator@xxxxxxx>
 - *Date:* 27 Jan 2006 10:50:22 –0800
-

gnh888@xxxxxxxx wrote:

- > mensanator@xxxxxxxx
- > Thanks for your answer, you got it right.
- >
- >>> is 21 the minimum (some combinations are duplicated with 21 sets)
- >
- > Yes this is Exactly what I am looking for.
- >
- >>> how to write an algorithm that finds the minimum set.
- >
- > Exactly correct.
- >
- >>> Didn't you make another post showing a set of 20, or was I
- > hallucinating?
- >
- > Yes absolutely correct. it was showing a set of 20, this set
- > of 20 works but this is not my work.
- > It was emailed to me 3 years ago.
- > I can post the set of 20

Yes, please re–post it.

- > but it does not prove this is the lowest
- > number we can get.
- > I believe we can get 19.

My first algorithm got 21 as the smallest covering set. It's possible it could do better if I changed some things around to allow more cases to be checked. I'll play around with it this weekend.

- >
- > The person who send it to me could not tell me how it was obtained. All
- > he mention in a very brief email was that he was using a lot of 1's and
- > 0's and was taking a huge amount of time.

Yeah, my program uses a lot of 1s and 0s also. I'll post some

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Product of a set with filters to create the subsets

Permutations with Replacement
Combinations with Replacement
Permutations without Replacement
Combinations without Replacement

Your problem is a case of Combinations without Replacement and I'm using it to exercise my program.

>
> I'll be happy to post the 20 lines but I believe it will stop people
> from trying to post what I am looking for.

On the contrary, it gives me something to shoot for.

>
> What I am looking for is not the answer of 20 or 19 but the process how
> it is done,

I'll discuss the process in a later post. There is, of course,
no guarantee that my algorithm is the best.

>
> The process must be very interesting. This is what I am after, the
> process and the logic behind it.
> Thanks again for putting your computer to test this?
> I wrote a program but stopped 3 year ago because my computer was not
> powerful enough.

I'm using Python, which I highly recommend. Very high level. I'll post
the code and explain the logic behind it when I get a chance.

>
> gnh888

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• *Follow-Ups:*

◆ ***Re: Help: How to combine all 4's into least 6's– Is there a way to calculate what the minimum of 6's will be?***

◇ *From:* Tim Peters

◆ ***Re: Help: How to combine all 4's into least 6's– Is there a way to calculate what the minimum of 6's will be?***

◇ *From:* gnh888@xxxxxxxxxx

• *References:*

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◇ *From: gnh888@xxxxxxxxxx*

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◇ *From: mensanator@xxxxxxxxxxxxxx*

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◇ *From: gnh888@xxxxxxxxxx*

- Prev by Date: ***Re: Cantorian pseudomathematics***
- Next by Date: ***Re: Cantorian pseudomathematics***
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