

Amelie's Solution to Number 5 Sandwiches

First, to put one number between 1, two numbers between 2, three numbers between three, I started by putting 1 at the front. Unfortunately I couldn't find a combination that worked, so I tried putting 2 at the front. It worked...

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After that I moved onto the next question; is there more than one way to do it? So I thought I've tried one at the front 2, at the front, so maybe I should ^{put} 3 at the front. Yet again it worked...

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After that I read the next question; can you make a complete sandwich with 1,1, 2,2, 3,3, 4,4? I used the same technique as before (starting with 1 then 2 then 3 then 4). Sadly, 1 didn't work, but again 2 did.

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Then I spotted the next question (I wonder if there is more than one way the numbers can be arranged). I thought yes there must be, so I put 3 at the front. Unlike before it didn't work,

so I moved onto 4. It worked...

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After that, I moved on to the hardest question... Is it also possible to make a sandwich using 1s, 2s, 3s, 4s, 5s, 6s and 7s? I started with 1. Sadly it didn't work. Neither did 2 and 3.

But 4 did...

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After that, I challenged myself to find another combination. Unfortunately starting with 5 or 6 didn't work, but 7 did.

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Suddenly I realised that you can't put the highest number in the middle slots because it would extend so far!! Using that information I realised that I had skipped a combination...

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I spotted another one by using the information on the highest number.

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