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# Chapter 9, Question 9

When using the for loop for this problem, if you iterate from

(for(k in 1:(2*n))

The summation returns 2n terms with the last term being an NA Is there an issue with the updated formula you gave us, sense z is supposed to return 2n numeric terms? This issue is also happening when I use the vector based program.

Is anyone else having this issue? Or are we supposed to receive 2n-1 terms?

hw3

Edit good question | 0 Updated 4 years ago by Bridget McGowan

**the students' answer,** *where students collectively construct a single answer*

Actions

I also have this issue

--

I see where this issue comes from; it seems that $Z_{2n} = \sum_{i=max\{1,2n-n+1\}}^{min\{2n,n\}} = \sum_{i=n+1}^{n}$ and the upper bound $n$ would be less than the lower bound $n+1$. Unless the intended purpose was so that $\sum_{i=n+1}^{n} = -\sum_{i=n}^{n+1}$ for some reason? Then $-\sum_{i=n}^{n+1} x_i \cdot y_{2n-i+1} = -(x_n \cdot y_{n+1} + x_{n+1} \cdot y_n)$, but I feel that that's wrong.

Edit: Upon further inspection, I suspect the sum could be $z_k = \sum_{i=max\{1,k-n\}}^{min\{k,n\}} x_i \cdot y_{k-i}$ (what's written in the book) with $y_0$ defined as $0$, or $z_k = \sum_{i=max\{1,k-n\}}^{min\{k,n\}} x_i \cdot y_{k-i+1}$ with $y_{n+1}$ defined as $0$ (only needed for $Z_{2n}$). Or the problem is written poorly.

Edit thanks! | 0 Updated 4 years ago by Charles Hwang and Hannah Butler

**followup discussions** *for lingering questions and comments*

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