Dear Dr. Sloane,

First of all, I have a correction to the values of $b_{17}$ and $d_{17}$ as given in my previous letter of 11 August. The correct values are one less, namely,

$$b_{17} = 3033, \quad d_{17} = 15.$$

Secondly, I have evaluated these constants for order 18. My result is:

$$b_{18} = 9519, \quad d_{18} = 19.$$

The numbers $d_n$ are in agreement with Duijvestijn's thesis. His value for $d_{19}$ is 58, but I cannot check this independently.

Yours sincerely,

C.J. Bouwkamp
Dr. C. J. Bouwkamp  
Goorstratt 10  
Eindhoven,  
THE NETHERLANDS  

Dear Dr. Bouwkamp:

Thank you very much for your letter of August 11, 1971. It was very kind of you to send me all those numbers.

If you do work out the values of $b_{18}$ and $d_{18}$, I would like to have them, but please do not take any trouble over it.

The sequence $B_n$ of self-dual c-nets I had already from the article by P. J. Federico (Jnl. Comb. Theory, 7, pp 151-161, 1969); but not $A_n$ and $C_n$, which have now been added to my collection.

Thank you again for your help.

Yours sincerely,

N. J. A. Sloane

MH-1216-NJAS-J1

Copy to  
Mr. W. O. Baker

APPROVED:

H. O. Pollak
Dear Dr. Sloane,

Thank you for your letter of July 28. I am glad to give the information wanted.
Your first sequence $a_n$ can be extended with one term, since $a_7 = 1023$. This figure is due to A.J. Dekkers of our Computing Centre, obtained about one year ago.
The sequence $b_n$ can be extended with two terms:

\[ b_{16} = 957; \quad b_{17} = 3034. \]

I have the necessary information to determine $b_{18}$, but it would take me some time to get it from my list of simple imperfect rectangles of order 18. The difficulty is concerned with the phenomenon of "crossed" squared rectangles. My list of 9529 items may contain two or three duplicates, and I can find this only by hand since all reels have been erased.
As to the third sequence, I have found

\[ c_{16} = 9016; \quad c_{17} = 31427; \quad c_{18} = 110384. \]

As to your question about further interesting combinatorial sequences, I might suggest

\[ d_n = \text{number of simple imperfect squared squares of order } n. \]

I found:

\[ d_{13} = 1; \quad d_{14} = 0; \quad d_{15} = 3; \quad d_{16} = 5; \quad d_{17} = 15; \quad d_{18} = 58. \]

The necessary information to obtain $d_{18}$ is in my possession. Perhaps I shall let you know at a later moment what $b_{18}$ and $d_{18}$ are.
As other sequences of interest, I mention the figures coming from 3-connected planar graphs:

\[ d_{19} = 58; \quad d_{18} = 19. \]
\[ A_n = \text{number of } 3\text{-connected planar graphs with } n \text{ edges where duals are identified,} \]

\[ B_n = \text{number of } 3\text{-connected planar graphs with } n \text{ edges that are self-dual,} \]

\[ C_n = \text{number of } 3\text{-connected planar graphs with } n \text{ edges} \]

\[ C_n = 2A_n - B_n; \]

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\[ 2880 \] \( (B_{2m} = 0) \)


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Yours sincerely,

[Signature]

Prof. Dr. C.J. Bouwkamp
Copy to
Mr. W. O. Baker

APPROVED:

H. O. Pollak

Dr. C. J. Bouwkamp
Goorstratt 10
Eindhoven,
THE NETHERLANDS

Dear Dr. Bouwkamp:

I should be most grateful if you would give me information about some combinatorial sequences. The first is the sequence:

\[ a_n \begin{array}{cccccccc}
2 & 3 & 4 & 5 & 6 & 7 \\
1 & 2 & 8 & 29 & 166 & 1023 & \checkmark
\end{array} \]

where \( a_n \) is the number of distinct polyominoes that can be made from \( n \) cubes -- are any more terms known in this sequence?

The other two are the sequences:

\[ b_n \begin{array}{cccccccc}
9 & 10 & 11 & 12 & 13 & 14 & 15 & 16 & 17 & 18 \\
1 & 0 & 0 & 9 & 34 & 104 & 283 & 957 & 3034 \end{array} \]

\[ c_n \begin{array}{cccccccc}
2 & 6 & 22 & 67 & 213 & 744 & 2609 & 9016 & 31427 & 110384 \\
2881 & 2839 & \end{array} \]

Which are the number of imperfect and perfect squared rectangles of order \( n \). Again, can you please supply any more terms in these sequences?

I am collecting interesting sequences of integers for a book -- can you suggest any others?

Yours sincerely,

N. J. A. Sloane
Dear Dr. Sloane,

Just back from vacation I got your letter. I have searched my papers for the information you requested. Although I have listings of all simple-perfect and simple-imperfect squared rectangles of orders up to and including 19 some counting would be necessary.

I asked Prof. Bouwkamp whether he had the information immediately available. It appeared that he is preparing a letter to you in which you can find all necessary information.

With best regards,

Prof.dr.ir. A.J.W. Duijvestijn.