

The first differences of S

are the odd terms of S

We start alternating even numbers (in yellow) and "holes" like this:

$$S = 2 . 4 . 6 . 8 . 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots$$

We fill the first hole with '1':

$$S = 2 \mathbf{1} 4 . 6 . 8 . 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots$$

We compute the first differences, D:

$$\begin{array}{l} S = 2 \mathbf{1} 4 . 6 . 8 . 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \end{array}$$

We duplicate this last '3' in the first free hole of S:

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 . 8 . 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \end{array}$$

We compute the next differences, D:

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 . 8 . 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \mathbf{1} \mathbf{3} \end{array}$$

We duplicate these results accordingly in S:

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 \mathbf{1} 8 \mathbf{3} 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \mathbf{1} \mathbf{3} \end{array}$$

We extend D as before:

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 \mathbf{1} 8 \mathbf{3} 10 . 12 . 14 . 16 . 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \mathbf{1} \mathbf{3} \mathbf{5} \mathbf{7} \mathbf{5} \mathbf{7} \end{array}$$

Duplication in S of the new terms of D:

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 \mathbf{1} 8 \mathbf{3} 10 \mathbf{5} 12 \mathbf{7} 14 \mathbf{5} 16 \mathbf{7} 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \mathbf{1} \mathbf{3} \mathbf{5} \mathbf{7} \mathbf{5} \mathbf{7} \end{array}$$

Etc.

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 \mathbf{1} 8 \mathbf{3} 10 \mathbf{5} 12 \mathbf{7} 14 \mathbf{5} 16 \mathbf{7} 18 . 20 . 22 \dots \\ D = \quad 1 \mathbf{3} \mathbf{1} \mathbf{3} \mathbf{5} \mathbf{7} \mathbf{5} \mathbf{7} \mathbf{5} \mathbf{7} \mathbf{9} \mathbf{11} \mathbf{9} \mathbf{11} \end{array}$$

S becomes:

$$\begin{array}{l} S = 2 \mathbf{1} 4 \mathbf{3} 6 \mathbf{1} 8 \mathbf{3} 10 \mathbf{5} 12 \mathbf{7} 14 \mathbf{5} 16 \mathbf{7} 18 \mathbf{5} 20 \mathbf{7} 22 \mathbf{5} 24 \mathbf{7} 26 \mathbf{9} \\ \mathbf{28} \mathbf{11} \mathbf{30} \mathbf{9} \mathbf{32} \mathbf{11} \mathbf{34} \mathbf{13} \mathbf{36} \mathbf{15} \mathbf{38} \mathbf{13} \mathbf{40} \dots \end{array}$$

We can start S with '1' and affirm now that "the absolute first

differences of S are the odd terms of S'':

S = 1 2 1 4 3 6 1 8 3 10 5 12 7 14 5 16 7 18 5 20 7 22 5 24 7 26
9 28 11 30 9 32 11 34 13 36 15 38 13 40.....

Best,
É.