Unit 15, part 71, appendix 2
E experiment (U15, p71, a1) reloaded
** Basis (see Unit 135, part 3, appendix 2)

$$\underline{A}(m) = \begin{pmatrix} A_{11}(m) & A_{12}(m) \\ A_{21}(m) & A_{22}(m) \end{pmatrix}$$

$$= \prod_{i=1}^{m} \begin{pmatrix} 2i & (2i-1) \\ (2i-1) & (2i-2) \end{pmatrix} \qquad (1)$$

$$f(m) = \frac{1}{2}\left(\frac{A_{11}(m)}{A_{21}(m)} + \frac{A_{12}(m)}{A_{22}(m)}\right) \qquad (2)$$

$$\lim_{m\to\infty} f(m) = e \qquad (3.1)$$

$$= [2;1,2,1,1,4,1,1,6,1,1,8,1,1,10,1,1,\ldots] \qquad (3.2)$$

$$= 1+2[0;1,6,10,14,18,22,26,30,34,\ldots] \qquad (3.3)$$

How about scf(f(m))?
scf(f(m))=
[2;1,2,1,1,4,1,1,6,1,1,…,(2m-2),**2**,(2m-2),…,
1,1,6,1,1,4,1,1,2,1], (4.8)
a palindromic structure with the pivot-element **2** situated in the (P(m)=3m-2)th position.
(14.1)
And the experiment also shows:

$$P(m) + \begin{cases} 1 \\ 0 \end{cases} \text{ is prime for m } = \begin{cases} 2,4,6,8,1014,16,18,20,24,28,30,34,36, \ldots \\ 3,5,7,11,13,15,31,23,25,27,31,33,35, \ldots . \end{cases} \quad (14.2)$$

** Continue the table equ. (14.2)
** as basis for the calculation of the related prime density plot.
** Find an approximation formula for this prime density function.
** Discuss your results.

19.05.2018 EPSnurt DScalc