

Comments to the authors

Authors state

you may have missed the important point that we did not make the assumption on a root having the maximum modulus

This is not completely true. Indeed, in Theorem 2.1 authors refer to *unique positive solution of the characteristic polynomial*. Sequences $\frac{a_{n+1}}{a_n}$ converge to this root ONLY IF this root is largest in modulus than the others (even if it is a multiple root). Indeed, their condition about c_i ensures this fact. For example authors can check that for linear recurrence sequence with characteristic polynomial $(y + 4)(y - 3)$, the limit of $\frac{a_{n+1}}{a_n}$ is -4 (and indeed condition on c_i is not satisfied). Remember that c_{k-1} is equal to the sum of the roots (in the previous simple example roots are 3 and -4). I provided a proof without multiple roots, but the Binet formula can be easily used even if there are multiple roots and the proof can be provided even in this case. Finally, numbers A_i (see the previous file for the notation) can be evaluated solving the following linear system

$$\sum_{i=1}^k A_i \alpha_i^j = a_j, \quad j = 0, \dots, k-1$$

i.e., we have k equations and k unknown quantities $(A_1, \dots, A_k)$ and the quantity A_i corresponding to the root largest in modulus can not be equal to zero.