

Informed guesses:

part a. At no time after the 117th term does the sequence, while in the process of decreasing through odd numbers, penetrate for more than one or two indices below the previously encountered smaller odd numbers, (see figure). It therefore seems extremely likely that the small numbers not already appearing will never appear. The first few such are: 5 7 8 9 10 13 14 and 17.

part b. As shown, zero does appear; moreover, due to the rather regular behavior exhibited it seems clear that zeroes will continue to appear, with diminishing frequency, but with infinitely many of them in the sequence.

part c. F_n will grow as the prime sequence P_n grows. In general if F_n has an odd value it will be between $.4P_n$ and P_n , while if it has an even value it will be between $1.4P_n$ and $2.0P_n$. There will, however, be occasional larger values of this ratio, seldom reaching beyond $4.0P_n$.

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