# ML homework 2: Question 5

I don’t agree with the answer provided by chatGPT, since as the question stated, what we knew about the sequence is that, “the first N − 1 terms of an integer sequence is generated from some polynomial of degree N”, but this statement does not guarantee that the sequence is formed as:

Therefore, if we let , we cannot plug in the points to derive the coefficients.

For example, if we have the sequence as:

Then we match the integer sequence to the two cases above, we will get different coefficients, thus resulting in different polynomials. Since the polynomial is not uniquely determined, we cannot guarantee what the N-th term will be.

Therefore, to predict the N-the term, we need more information telling how the sequence is defined (i.e We need to know the specific arguments of the polynomial that correspond to the sequence.)