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Question 5

Assume $x = < a, b, c >$ and could be written as polynomial form $a + bn + cn^2$. Sequence $< 1,1, -1 >$could be written as $1 + n - n^2$. Now we multiply them together and produce following equation:

$$a + (a + b)n + (b + c - a)n^2 + (c - b)n^3 - cn^4$$

Compared with the result sequence, we have

$$a = 1, a + b = 0, (b + c - a) = -1, (c - b) = 2, c = -1$$

Solve this equation we can find that $a = 1, b = -1, c = 1$

Therefore, $x = < 1, -1, 1 >$