



Special Maths Academy *Problem Corner for November 2022*

Instructions : Provide well-written and well-explained solutions. Submit via our website: <https://specialmaths.ng/problem-corner/>

Problem :

- Find the general term U_n of the sequence below:

$$U_{2n} = U_{2n-1} + a$$

$$U_{2n+1} = U_{2n} + b$$

Where a and b are real constants , $n \geq 1$ and $U_1 = a$

- Find the sum $\sum_{k=1}^n U_k$
- Hence find the sum of the first 1000 terms of the sequence
1, 3, 2, 4, 3, 5, 4

Proposed by Wisdom Okoro