

**ABSTRACT**  
**MATRIX TRANSFORMATIONS OF INTEGERS SEQUENCES**

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The integer sequences with first term 1 comprise a group  $\mathcal{G}$  under convolution, namely, the appell group, and the lower triangular infinite integer matrices with all diagonal entries 1 comprise a group  $\mathbb{G}$  under matrix multiplication. If  $A \in \mathbb{G}$  and  $M \in \mathbb{G}$ , then  $MA \in \mathbb{G}$ . The groups  $\mathcal{G}$  and  $\mathbb{G}$  and various subgroups are discussed. These include the group  $\mathbb{G}^{(1)}$  of matrices whose columns are identical except for initial zeros, and also the group  $\mathbb{G}^{(2)}$  of matrices in which the odd-numbered columns are identical except for initial zeros and the same is true for even-numbered columns. Conditions are determined for the product of two matrices in  $\mathbb{G}^{(m)}$  to be in  $\mathbb{G}^{(1)}$ . Conditions are also determined for two matrices in  $\mathbb{G}^{(2)}$  to commute

**Keyword :** The Integer Sequences, Matrix Transformations, Convolution, Appell Group.