A lower triangular infinite matrix is called a triangle if there are no zeros on the principal diagonal. Denote by \( A_k \) the sequence space defined by

\[
A_k := \left\{ \{s_n\} : \sum_{n=1}^{\infty} n^{k-1} |a_n|^k < \infty, \ a_n = s_n - s_{n-1} \right\} \quad \text{for} \quad k \geq 1.
\]

A matrix \( T \) is said to be a bounded linear operator on \( A_k \), written \( T \in B(A_k) \), if \( T : A_k \to A_k \). In [G. Das, A tauberian theorem for absolute summability, Proc. Cambridge Philos. Soc. 67 (1970), 321-326], Das defined such a matrix to be absolutely \( k \)-th power conservative for \( k \geq 1 \). A minimal set of sufficient conditions are obtained for a triangle \( T \in B(A_k) \) in a previous paper of author jointly with E. Savaş and B. E. Rhoades [E. Savaş, H. Şevli and B.E. Rhoades, Triangles which are bounded operators on \( A_k \), to appear in Acta Math. Hungar.]. It is the purpose of of this work to extend this result to doubly infinite matrices. As special summability methods \( T \) we consider weighted mean and double Cesàro, \((C, 1, 1)\), methods. (Received August 02, 2007)