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Application Of Linear And Non Linear Automata Rules In Cryptography For Improved Security Of Transmitted Data

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Abstract : Internet is the prime vehicle to disseminate information from one place to another. Providing security to data is a major issue in transmitting data. One way of providing security to the data is encryption and decryption. Normal encryption is the way of changing the plaintext into cipher text using encryption and decryption algorithm and key. Literature reported different methods for encryption. An attempt is made in this paper to propose encryption and decryption performed with cellular automata rules. Cellular automata is idealized parallel processing machine which depends upon the cell value which is updated based on updating rule, which involves the cell and other cell values in a particular neighbourhood Discrete references were made in the literature on the application of cellular automata rules. However lot more work remains to be done in this area. An attempt is made in this paper to provide encryption and decryption with cellular automata rules , using Data Encryption Standard(DES) and Advance Encryption Standard (AES) algorithms . They are operated at various stages ,with the number of stages involved in sequential, and cellular automata operating parallel.