Application of Modulo-2 Arithmetic in Securing Communicated Messages throughout the Globe

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Abstract : Today, the word encryption has become very popular even among non-computer professionals. There is no doubt that some works have been carried out in this area, but more works need to be done. Presently, most of the works on encryption is concentrated on the sender of the message without paying any attention to the message recipient. However, it is a good practice if any message sent to someone is received by the particular person whom the message is sent to. This work seeks to ensure that at the receiving end of the message, there is a security to ensure that the recipient computes a key that would enable the encrypted message to be accessed. This key would be in form of password. This would make it possible for a given message to be sent to several people at the same time. When this happens, it is only those people who computes the key correctly that would be given the opportunity to access even the encrypted message, which can in turn be decrypted using the appropriate key.

Keywords : arithmetic, cyber space, modulo-2, information security

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