

УДК 336.018

Dmytro Voloshchuk ¹, Olha Kalantaieva ²

¹student of group CST-128 ZNTU

²teacher ZNTU

CODING AND DECODING

Often there is a need not only to encode information, but also to hide it from outsiders. For such purposes encryption is used. Simple words, encryption is the encoding of information, but not for the purpose of correctly presenting it on a computer screen, in order to hide data from those who do not need to gain access to encrypted information. The encryption alphabet consists of two elements

Algorithm - a unique sequence of mathematical operations with binary numbers. The key is a binary sequence that is added to the message to be encrypted.

Decryption is the reverse process to security encoding, which involves turning the data into its original form using a known key. **Cryptography** is the science of data encryption. In total, two sections of cryptography are distinguished.

Symmetric — in such encryption cryptosystems, the same key is used for encryption and decryption. The disadvantage of the system is low resistance to cracking;

Asymmetric - the private and public keys are used for encryption. Thus, a stranger will not be able to decrypt (decode) the message, even if the algorithm is known. There are three types of data encryption:

Letter Coding - This is the code that is derived on the basis of alphabets. usually, the position of alphabets is used. **Number Coding** - this encryption method uses word substitution.

Symbol Coding - In the symbol coding, we use the symbols like “!@#\$\$%^&()_”, to represent words or letters. These codes are then used to determine a code for the words that are written down.