**TASK I**

There are several mechanism invented so far to secretly share the messages. The standard categories include substitution ciphers, transposition ciphers, symmetric ciphers, assymmetric cipher and many more. Imagine you have been given a task to invent a new approach to secretly send the messages to your friends. What will be your approach? What operations that you can think that would successfully protect the message when communicated via a network.

Your task is to come up with a approach that you might have heard in your childhood or you might have used as part of fun/play. Finally, develop the program to convert a plain message to secret message and vice versa.

**TASK 2**

Thera several simple and complex mechanisms developed so far to compress and decompress data either in binary or textual form in order to minimize data transfer in the communication system.

Can you come up with a unique approach to develop program to compress and decompress data either in binary form or textual form.?

**TASK 3**

There are several programming languages developed so far. However, we are still looking for a compiler that will take an alogorithm written in specific plaintext format and transform it into equivalent programming language. The task for you is that can you come up with a compiler for converting a plain text pseudocode to its equivalent program.

**TASK 4**

A number of software products are available in the market to check english grammar of your document. Can you come up with a program that can check whether a given english statement is syntactically correct? Assume that the tokenization of english words are available via a standard dictionary.

**TASK 5**

Cyber fraud is scaling up day by day as we are depending more on internet for multiple purpose. The froud accounts is common case now a days in social media. Imagine you have input of a number profile data of users of a specific social community, can you come up with a mechanism to detect whether a given social media profile is original or fraud?

**IMPORTANT NOTE** :

1) DO NOT USE ANY ALGORITHM THAT IS FOUND IN INTERNET (VIA SEARCH ENGINE) AS I AM NOT LOOKING FOR YOU TO DEVELOP A MECHANISM THAT WILL EITHER BECOME A GLOBAL STANDARD MECHANISM OR WILL WIN THE NOBEL PRIZE.

ALL YOU NEED TO DO IS THINK THINK AND THINK.