Task 1: Frequency Analysis

A computer screen capture

Description automatically generated with medium confidence

I was able to decrypt a few of the characters and after having a certain amount of characters it became easier to decode. It was interesting when I was trying to decipher the file because the first few characters are the hardest to find out. The capital letters helped a lot as well since it showed what was correct.

Task 2: Encryption



I used these commands to encrypt the files in both ecb and cbc.

A picture containing calendar

Description automatically generated

The following picture is the product of the following commands that I did to the encrypted cbc file. There are no traces of the shapes from the original file with cbc. This encryption method by far is the best to protect any kind of important information.

A screenshot of a computer

Description automatically generated with medium confidence

This is the following picture that I get after running the following commands with ecb encrypted file. The picture that I encrypted has the shapes visible with ecb.

Task 3: Decryption

A picture containing text

Description automatically generated

After decrypting the file with -aes-128-ecb using -d I ran the command to replace the header of the encrypted picture with that of the original pictures and it displayed cal state LA logo as the decrypted secret image.