Exercise 1
Give the security properties that an international airport should guarantee.

Exercise 2
Symmetric Cryptosystems Decrypt the following ciphers (they all correspond to an encryption method seen in class):


2. (easy) FDWV DUH LQWHQGHG WR WHOO XV WKDW QRW HYHUBWKLQJ LQ QDWXUH KDV D IXQFWLRQ.
   (Hint: B.C.)

3. (medium) OUFWIY ATNHAT DONNIG GHRTEI TYOODI ELRFUS
   (Hint: observe the structure of the ciphertext)

4. (hard) JF CFEX REU KYREBJ WFI RCC KYV WZJY
   (Hint: ROT-N)

5. (hard) ESIRNDAVYIUPEOGCRDFNAOIYOTGSORIRCUAOEORNNSVOCISEWE
   (Hint: The cipher has 50 letters)

Exercise 3
Churchyard cipher (simplified)

\[
\begin{array}{ccccccccccc}
\therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore \\
\therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore & \therefore \\
\end{array}
\]

• History:
  – This ciphertext appeared engraved on a tombstone in Trinity Churchyard (New York) in 1794.
  – First published solution: 1896.
Questions:

1. What kind of cipher is it?
2. Why is it so difficult to break? (Especially without the hint!)
3. What is the plaintext message?
4. What is the key?

HINT: TIC TAC TOE = [•••□□□□□□□□□□□□□□□□□□□□]