

Applied Cryptography: Homework 2

(Deadline: 3:00pm, 2022/03/02)

Justify your answers with calculations, proofs, and programs.

1. (25 points, question 2.21(a), page 54 of the textbook) Below is given an example of ciphertext obtained from a Substitution Cipher. The task is to determine the plaintext.

Give a clearly written description of the steps you followed to decrypt the ciphertext. This should include all statistical analysis and computations you performed.

EMGLOSUDCGDNCUSWYSFHNSFCYKDPUMLWGYICOXYSIPJCK
QPKUGKMGOLICGINCGACKSNISACYKZSCKXECJCKSHYSXCG
OIDPKZCNKSHICGIWYGKKGKGOLDSILKGOIUSIGLEDSPWZU
GFZCCNDGYYSFUSZCNXEOJNCGYEOWEUPXEZGACGNFGLKNS
ACIGOIYCKXCJUCIUZCFZCCNDGYYSFEUEKUZCSOCFZCCNC
IACZEJNCSHFZEJZEGMXCYHCJUMGKUCY

HINT F decrypts to w .

2. (25 points, question 2.21(b), page 54 of the textbook) Below is given an example of ciphertext obtained from a Vigenère Cipher. The task is to determine the plaintext.

Give a clearly written description of the steps you followed to decrypt the ciphertext. This should include all statistical analysis and computations you performed.

KCCPKBGUFDPHQTYAVINRRTMVGRKDNBVFDETDGILTXRGUD
DKOTFMBPVGEGLTGCKQRACQCWDNAWCRXIZAKFTLEWRPTYC
QKYVXCHKFTPONCQQRHJVAJUWETMCMSPKQDYHJVDAHCTRL
SVSKCGCZQQDZXGSFRLSWCWSJTBHAFSIASPRJAHKJRJUMV
GKMITZHFPDISPZLVLGWTFPLKKEBDPGCEBSHCTJRWXBAFS
PEZQNRWXCVCYGAONWDDKACKAWBBIKFTIOVKCGGHJVLNHI
FFSQESVYCLACNVRWBBIREPBVBVFEXOSCDYGZWPFDTKFQIY
CWHJVLNHIQIBTKHJVNPIST
