

RFMA310-1 20H Diskret matematikk  
Hjemmeeksamen

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# 1 The Elgamal Encryption Algorithm

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## 2 The source code

I have implemented Elgamal in python as it supports enormous numbers within its default libraries. Before encrypting the plaintext, I convert its characters to ASCII values and concatenates them together.

The message to be encrypted has to be an element of the cyclic group  $G$ , creating a limit to the message's length. To support longer messages, the message is divided into blocks smaller than  $G$ 's order. As the ASCII values varies from one - three digits, zeros are appended at the beginning to make every value the same length. This is needed to make decryption easier. ??.