HW1 crypto

Daniel Tibi – 302218136   
Nathan Khutorskoy – 307975052

Exercise 1

Encryption key is given by the matrix:

In order to decrypt, need to multiply by inverse matrix:

`

Encryption key is given by the matrix:

In order to decrypt, need to multiply by inverse matrix:

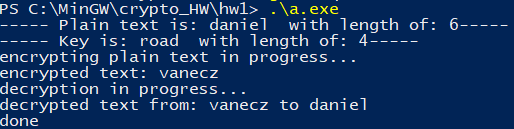
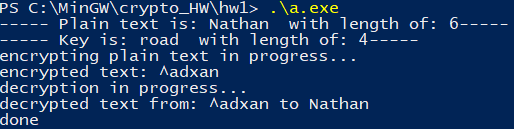
1. We can use Euler’s theorem to calculate the number of keys:

Amount of inverse matrixes mod 2:

Amount of inverse matrixes mod 13:

A matrix can be inversed mod 26 if it is inversed mod 2 and inversed mod 13.

The number of possible keys is multiplication of two numbers of matrixes:

1. 9726417792 = 1634038189056
2. 
3. 

Exercise 2

