CSC 233

HW1 (Sample)

Marcus Schaefer

**Problem 2** (Skytale)

I had to decrypt “"TOMAN HFILC EFSVE PREIR ETGIE EICDR LEONA" encrypted using a Skytale. I was told that the number of columns was between 5 and 10. So I tried solving with 5 columns. Since the ciphertext has 35 = 5\*7 letters, this means each column consists of 7 letters:

T I E T D

O L P G R

M C R I L

A E E E E

N F I E O

H S R I N

F V E C A

This doesn’t seem to make sense, so I tried with 6 columns. 35 = 6\*5+5 = 5\*6+5, so there are 5 columns of six letters, and one with five.

T F S I E L

O I V R E E

M L E E I O

A C P T C N

N E R G D A

H F E I R

Still doesn’t make sense. With seven columns each column has 5 letters, and I get

T H E P E E L

O F F R T I E

M I S E G C O

A L V I I D N

N C E R E R A

There is a THE at the beginning, PEEL could also make sense, the first couple of columns may actually have five letters. Overall, the text doesn’t make sense yet though. I tried 8 columns next. Since 35 = 4\*8 + 3 = 3\*5 + 5\*4, there are three columns with five letters, and five columns with four letter:

T H E P R I C E

O F F R E E D O

M I S E T E R N

A L V I G I L A

N C E

This actually makes sense, and is a well-known quote from somebody famous. I think. The original plaintext then (with word separations) was:

“The price of freedom is eternal vigilance”.

**Problem 3 (Railfence Cipher).**

Ran out of time on the first problem …