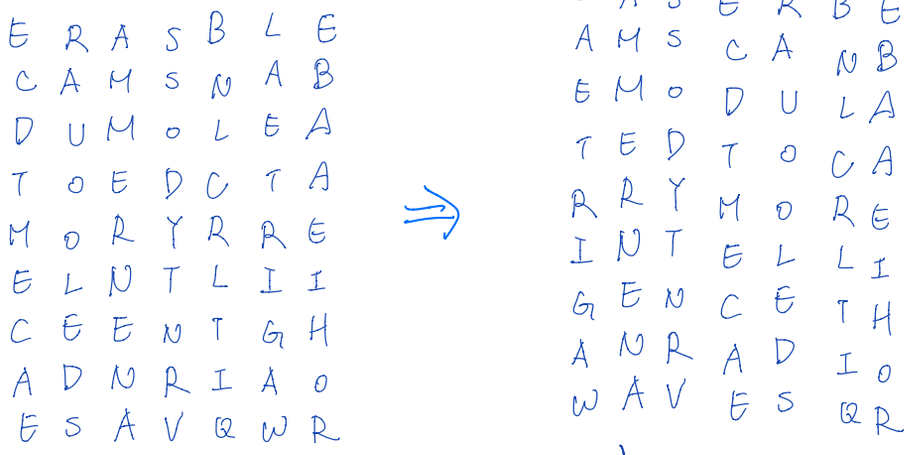
Quiz2

Ciphertext:
ECDTM ECAER AUOOL
EDSAM MERNE NASSO
DYTNR VBNLC RLTIQ
LAETR IGAWE BAAEI
HOR



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
8	2	3	3	9	0	1	1	3	0	0	4	3	4	4	0	1	6	3	4	1	1	1	0	1	0

laser beam scan be modulated to carry more intelligence than radio waves

How to determine the dimension of the

- In this case we have 63 letters.
- Vowel Frequencies can help us to determ
- In English approximately 40% of plaintex correct dimension, each row of the rectar
- For example, there are 21 letters in the c
- Because we know that the message com either a 3X7 or a 7X3 array.
- Consider our choice between 3X7 and 7
- For a 3X7 rectangle, each row should contain approximately 2.8 vowels.
- Let us note the difference between this estimate and the actual count to find the right dimension.

Example:

Either

A	I	T	M	T	S	E
S	R	F	I	K	O	E
A	I	N	M	L	I	M

or

A	F	L
S	N	S
A	M	O
I	I	I
R	M	E
I	T	E
T	K	M

40% vowels. Consider our choice between 3×7 and 7×3.

For a 3×7 rectangle, each row should contain approximately 2.8 vowels.
Let us note the difference between this estimate and the actual count:

							Number of vowels	Difference
A	I	T	M	T	S	E	3	0.2
S	R	F	I	K	O	E	3	0.2
A	I	N	M	L	I	M	3	0.2

The sum of the differences is 0.6.

For a 7×3 rectangle:

			Number of vowels	Difference
A	F	L	1	0.2
S	N	S	0	1.2
A	M	O	2	0.8
I	I	I	3	1.8
R	M	E	1	0.2
I	T	E	2	0.8
T	K	M	0	1.2

The sum of the differences is 6.2. It appears that the 3×7 rectangle is more likely.

Practice:

Transposition - Columnar Transposition

E	R	A
C	A	M
D	U	M
T	O	E
M	O	R
E	L	N
C	E	E
A	D	N
E	S	A