

C - Codebusters - Rickards Invitational Div. C - 12-05-2020

Hello there! Welcome to the Rickards Invitational. You have 50 minutes to complete the following test, good luck! Keep in mind for this test, you are not allowed to leave the tab or use a notes. If your team leaves the tab for more than a collective 30 seconds, you will be **tiered**. Please get in any calls before the test starts. You are allowed to use the Codebusters Reference Sheet provided below, but it must be printed out before the test starts. A copy of the reference will also be on the test itself.

Codebusters Reference Sheet: <https://scilympiad.com/Data/shared/testRefs/CodebustersReference.pdf> (<https://scilympiad.com/Data/shared/testRefs/CodebustersReference.pdf>) (<https://scilympiad.com/Data/shared/testRefs/CodebustersReference.pdf>)

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DO NOT LEAVE THE TAB UNDER ANY CIRCUMSTANCE OR YOU FACE THE RISK OF BEING TIERED.

The following tables might be useful during Codebusters.

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
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
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	A
C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B
D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C
E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D
F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E
G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F
H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G
I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H
J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I
K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J
L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K
M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M
O	P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N
P	Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q	R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
R	S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
S	T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
T	U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
U	V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
V	W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
W	X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
X	Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Y	Z	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Z	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

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
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

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
2	Y	X	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A

1	3	5	7	9	11	15	17	19	21	23	25
1	9	21	15	3	19	7	23	11	5	17	25

AAAA	A	AAAB	G	ABAA	H	BAAB	T
AAAB	B	ABBB	R	ABAB	O	BAAB	U/V
AAAB	C	ABAA	I/J	ABBA	P	BAAB	W
AAAB	D	ABAB	K	ABBB	Q	BAAB	X
AAAB	E	ABAB	L	ABAA	R	BAAB	Y
AAAB	F	ABAB	M	ABAA	S	BAAB	Z

Frequency Table of English letters:

E - 12.51%	S - 6.54%	C - 3.06%	G - 1.96%	K - 0.67%
T - 9.25%	R - 6.12%	U - 2.71%	W - 1.92%	X - 0.19%
A - 8.04%	H - 5.49%	M - 2.53%	Y - 1.73%	J - 0.16%
O - 7.60%	L - 4.14%	F - 2.30%	B - 1.54%	Q - 0.11%
I - 7.26%	D - 3.99%	P - 2.00%	V - 0.99%	Z - 0.09%
N - 7.09%				

Frequency Table of Spanish letters:

E - 14.08%	I - 5.98%	M - 3.08%	Y - 1.09%	Z - 0.47%
A - 12.16%	L - 5.24%	P - 2.89%	V - 1.05%	B - 0.17%
O - 9.20%	D - 4.67%	B - 1.49%	G - 1.00%	X - 0.14%
S - 7.20%	T - 4.60%	H - 1.18%	F - 0.69%	K - 0.11%
N - 6.83%	U - 4.69%	Q - 1.11%	J - 0.52%	W - 0.04%
R - 6.41%	C - 3.87%			

For the purposes of cryptograms it is customary to treat n and ñ as distinct letters, but a and á are the same letter. Likewise for e and é, and i and í. In other words, all the accent marks get amputated when working with cryptograms. Also, while some older Spanish dictionaries consider ch, ll, and rr to be their own letters—this has fallen out of modern usage. Accordingly, "burro" is considered as five letters: "b-u-r-r-o" and not as four letters "b-u-r-o."

Morse Code:

A •-•	F ••••	K •-••	P ••••	U ••••
B -••••	G •-••	L ••••	Q •-••	V ••••
C -••••	H ••••	M •-••	R ••••	W ••••
D •-••	I ••••	N •-••	S ••••	X ••••
E ••••	J ••••	O •-••	T ••••	Y ••••
				Z •-••

0 -•••••	2 •••••	4 •••••	6 •••••	8 •••••
1 •••••	3 •••••	5 •••••	7 -••••	9 -•••••

• E	- T	• N	- M	• D	• K	• G	• O
•• I	•• A	•• R	•• W	•• P	•• J		
••• S	••• U	••• F	••• L	••• Z	••• Q		
•••• H	•••• V	•••• C	•••• Y	•••• 4			
•••• B	•••• X	•••• 2	•••• 3	•••• 9			
••••• 0	••••• 1	••••• 7	••••• 8				
••••• S	••••• 6						

1. (100.00 pts) Decode this Caesar Cipher which is a quote by Groucho Marx.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

U	R	U	Z	P	F	Q	X	Q	H	U	E	U	A	Z	H	Q	D	K	Q	P	G	O	M	F	U	Z	S	.	Q	H	Q	D	K	F	U	Y	Q
I	F	I	N	D	T	E	L	E	V	I	S	I	O	N	V	E	R	Y	E	D	U	C	A	T	I	N	G	.	E	V	E	R	Y	T	I	M	E
E	A	Y	Q	N	A	P	K	F	G	D	Z	E	A	Z	F	T	Q	E	Q	F	,	U	S	A	U	Z	F	A	F	T	Q	A	F	T	Q	D	
S	O	M	E	B	O	D	Y	T	U	R	N	S	O	N	T	H	E	S	E	T	,	I	G	O	I	N	T	O	T	H	E	O	T	H	E	R	
D	A	A	Y	M	Z	P	D	Q	M	P	M	N	A	A	W	.																					
R	O	O	M	A	N	D	R	E	A	D	A	B	O	O	K	.																					

2. (125.00 pts) Decode this Caesar Cipher that is a quote by Maya Angelou

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

T	W	D	M	Z	M	K	W	O	V	Q	H	M	A	V	W	J	I	Z	Z	Q	M	Z	A	.	Q	B	R	C	U	X	A					
L	O	V	E	R	E	C	O	G	N	I	Z	E	S	N	O	B	A	R	R	I	E	R	S	.	I	T	J	U	M	P	S					
P	C	Z	L	T	M	A	,	T	M	I	X	A	N	M	V	K	M	A	,	X	M	V	M	B	Z	I	B	M	A	E	I	T	T	A	B	W
H	U	R	D	L	E	S	,	L	E	A	P	S	F	E	N	C	E	S	,	P	E	N	E	T	R	A	T	E	S	W	A	L	L	S	T	O
I	Z	Z	Q	D	M	I	B	Q	B	A	L	M	A	B	Q	V	I	B	Q	W	V	N	C	T	T	W	N	P	W	X	M	.				
A	R	R	I	V	E	A	T	I	T	S	D	E	S	T	I	N	A	T	I	O	N	F	U	L	L	O	F	H	O	P	E	.				

3. (225.00 pts) The following text needs to be encoded with the Affine Cipher using $a=25$ and $b=25$.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

H	M	M	M
S	N	N	N

T	H	I	S
G	S	R	H

S	U	S	P	I	C	I	O	U	S	L	Y
H	F	H	K	R	X	R	L	F	H	O	B

L	O	O	K	S
O	L	L	P	H

S	I	M	I	L	A	R
H	R	N	R	O	Z	I

T	O	A
G	L	Z

D	I	F	F	E	R	E	N	T
W	R	U	U	V	I	V	M	G

C	I	P	H	E	R
X	R	K	S	V	I

T	H	A	T
G	S	Z	G

U	S	E	D
F	H	V	W

T	O
G	L

B	E
Y	V

O	N
L	M

T	H	E
G	S	V

R	U	L	E	S
I	F	O	V	H

M	A	N	U	A	L	.
N	Z	M	F	Z	O	.

4. (275.00 pts) The following text needs to be decoded with the Affine Cipher where $a=19$ and $b=6$.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

K	U	A	F	G	D	J	C	N	C	T	Q
S	Y	M	P	A	T	H	I	Z	I	N	G

I	M	W	H	L
W	O	U	L	D

X	C	B
F	I	X

Y	W	G	O	E	R
Q	U	A	K	E	R

M	Z	V	E	S	D	C	P	E	K
O	B	J	E	C	T	I	V	E	S

5. (300.00 pts) The following text needs to be decoded with the Affine Cipher where $a=22$ and $b=4$.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

I	O	.
M	R	.

U	A	W	Q	,
J	O	C	K	,

G	Y
T	V

S	C	Y	I
Q	U	I	Z

W	C	S	,
P	H	D	,

A	E	G	K
B	A	G	S

K	O	U
F	E	W

M	M	E	Q
L	Y	N	X

6. (400.00 pts) Solve this Aristocrat which is a quote by Michelle Obama [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

O	S	D	H	U	M	W
I	N	S	T	E	A	D

I	P
O	F

T	U	H	H	O	S	Z
L	E	T	T	I	N	G

F	I	N	G
Y	O	U	R

J	M	G	W	D	J	O	E	D
H	A	R	D	S	H	I	P	S

M	S	W
A	N	D

P	M	O	T	N	G	U	D
F	A	I	L	U	R	E	S

W	O	D	X	I	N	G	M	Z	U
D	I	S	C	O	U	R	A	G	E

I	G
O	R

U	C	J	M	N	D	H
E	X	H	A	U	S	T

F	I	N	,
Y	O	U	,

T	U	H
L	E	T

H	J	U	A
T	H	E	M

O	S	D	E	O	G	U
I	N	S	P	I	R	E

F	I	N	.
Y	O	U	.

7. (400.00 pts) Solve this Aristocrat which is a quote from a book [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

F	D	V	E	F	K	M	Y	F	L	K	L	W	K	T	N	F	W	N	F	K	A	F	Y	A	T	Y	U	F	K	.
A	H	U	M	A	N	B	R	A	I	N	I	S	N	O	T	A	S	T	A	N	D	A	R	D	O	R	G	A	N	.

X	T	K	W	N	F	K	N	I	P	N	D	Y	T	M	M	L	K	U	F	K	A	S	V	I	W	F	N	L	K	U	,	L	N
C	O	N	S	T	A	N	T	L	Y	T	H	R	O	B	B	I	N	G	A	N	D	P	U	L	S	A	T	I	N	G	,	I	T

Y	F	S	L	A	I	P	H	T	Y	E	W	T	S	L	K	L	T	K	W	;	F	N	N	F	L	K	L	K	U	F	K	F	M	L	I	L	N	P
R	A	P	I	D	L	Y	F	O	R	M	S	O	P	I	N	I	O	N	S	;	A	T	T	A	I	N	I	N	G	A	N	A	B	I	L	I	T	Y

T	H	L	N	W	T	Q	K
O	F	I	T	S	O	W	N

8. (300.00 pts) Solve this Aristocrat which is a quote by Mitch Hedberg [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

P	G	Z	J	G	N	S	P	J	F	U	G	B	X	D	C	'	P	J	P	J	F	K	K	X	L	C	V	S	P	X	F	V	R	M	F	V	U
R	I	C	E	I	S	G	R	E	A	T	I	F	Y	O	U	'	R	E	R	E	A	L	L	Y	H	U	N	G	R	Y	A	N	D	W	A	N	T

U	D	J	F	U	U	M	D	U	L	D	C	N	F	V	R	D	B	N	D	I	J	U	L	G	V	S	.
T	O	E	A	T	T	W	O	T	H	O	U	S	A	N	D	O	F	S	O	M	E	T	H	I	N	G	.

9. (350.00 pts) Solve this Aristocrat which is a quote by Joan Rivers [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

X	F	L	Q	F	Y	Z	P	X	K	L	O	K	L	Q	R	Y	X	,	Q	R	I	R	Y	Y	R	A	K	L	P	I	X	L	Q	F	Y	X	,
Y	E	S	T	E	R	D	A	Y	I	S	H	I	S	T	O	R	Y	,	T	O	M	O	R	R	O	W	I	S	A	M	Y	S	T	E	R	Y	,

Q	R	Z	P	X	K	L	U	R	Z	'	L	U	K	C	Q	,	Q	O	P	Q	'	L	A	O	X	A	F	D	P	V	V	K	Q	Q	O	F
T	O	D	A	Y	I	S	G	O	D	'	S	G	I	F	T	,	T	H	A	T	'	S	W	H	Y	W	E	C	A	L	L	I	T	T	H	E

M	Y	F	L	F	G	Q	.
P	R	E	S	E	N	T	.

10. (375.00 pts) Solve this Aristocrat which is a quote by Spike Milligan [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

T	C	C	U	T	N	R	U	N	P	G	O	B	G	T	J	B	O	P	D	K	S	D	M	O	P	G	T	P	Y	D	J	O	A
A	L	L	I	A	S	K	I	S	T	H	E	C	H	A	N	C	E	T	O	P	R	O	V	E	T	H	A	T	M	O	N	E	Y

B	T	J	'	P	Y	T	R	O	Y	O	G	T	K	K	A	.
C	A	N	'	T	M	A	K	E	M	E	H	A	P	P	Y	.

11. (475.00 pts) Solve this Aristocrat which has been severely misspelled and mangled [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

P	V	W	X	K	W	I	P	V	D	F	R	'	X	D	V	B	P	I	J	Q	D	J	I	I	B	J	K	V	R	X	A	J	V	P	I	F
S	U	M	T	Y	M	E	S	U	C	A	N	'	T	C	U	R	S	E	L	F	C	L	E	E	R	L	Y	U	N	T	I	L	U	S	E	A

V	B	P	I	J	Q	X	G	B	E	E	X	G	V	G	A	'	P	E	H	I	V	X	G	I	B	P	.
U	R	S	E	L	F	T	H	R	O	O	T	H	U	H	I	'	S	O	V	E	U	T	H	E	R	S	.

12. (450.00 pts) Solve this Aristocrat which is a quote, but the words are in the wrong order. [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

D	V	B	B	Y	T	B	K	D	C	U	I	C	U	E	W	U	C	D	H	F	X	C	U	I	C	E	D	V	B	X	J	B	Q	W	U	F
T	H	E	E	X	P	E	C	T	I	N	G	I	N	S	A	N	I	T	Y	D	O	I	N	G	I	S	T	H	E	O	V	E	R	A	N	D

X	J	B	Q	W	U	F	E	W	Z	B	Q	B	E	R	S	D	E	F	C	N	N	B	Q	B	U	D	W	I	W	C	U	D	V	C	U	I
O	V	E	R	A	N	D	S	A	M	E	R	E	S	U	L	T	S	D	I	F	F	E	R	E	N	T	A	G	A	I	N	T	H	I	N	G

13. (450.00 pts) Solve this K1 encoded Patristocrat which is a quote by Enrico Fermi [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

A	T	G	T	D	F	A	S	T	D	T	E	M	P	O	L	M	T	M	W	T	X	N	J	B	T	N	B	Z	T	S	T	D	P	G
N	E	V	E	R	U	N	D	E	R	E	S	T	I	M	A	T	E	T	H	E	J	O	Y	P	E	O	P	L	E	D	E	R	I	V

T	U	D	N	O	W	T	L	D	P	A	V	E	N	O	T	M	W	P	A	V	M	W	T	J	L	Z	D	T	L	S	J	Y	A	N	H
E	F	R	O	M	H	E	A	R	I	N	G	S	O	M	E	T	H	I	N	G	T	H	E	Y	A	L	R	E	A	D	Y	K	N	O	W

14. (460.00 pts) Solve this K2 encoded Patristocrat which is a quote by George Carlin. [FREQUENCY]

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

Y	B	X	Y	C	E	Y	B	N	B	X	S	R	F	B	K	A	V	B	X	S	Q	A	U	S	R	Y	M	C	B	A	V	Y	C	R
I	T	H	I	N	K	I	T	S	T	H	E	D	U	T	Y	O	F	T	H	E	C	O	M	E	D	I	A	N	T	O	F	I	N	D

A	F	B	H	X	S	O	S	B	X	S	D	Y	C	S	Y	N	R	O	M	H	C	M	C	R	Q	O	A	N	N	Y	B	R	S	D
O	U	T	W	H	E	R	E	T	H	E	L	I	N	E	I	S	D	R	A	W	N	A	N	D	C	R	O	S	S	I	T	D	E	L

Y	P	S	O	M	B	S	D	K
I	B	E	R	A	T	E	L	Y

15. (500.00 pts) Solve this Patristocrat which is a quote that contains the word "WATERS" **[FREQUENCY]**

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

X	S	Y	Y	Z	S	I	V	Y	S	B	H	H	S	Y	Y	X	S	V	K	L	T	A	O	I	G	X	X	H	S	S	Y	Z	S	W	
L	E	T	T	H	E	W	A	T	E	R	S	S	E	T	T	L	E	A	N	D	Y	O	U	W	I	L	L	S	E	E	T	H	E	M	
A	A	K	V	K	L	Y	Z	S	H	Y	V	B	H	W	G	B	B	A	B	S	L	G	K	T	A	O	B	A	I	K	C	S	G	K	P
O	O	N	A	N	D	T	H	E	S	T	A	R	S	M	I	R	R	O	R	E	D	I	N	Y	O	U	R	O	W	N	B	E	I	N	G

16. (550.00 pts) Solve this Patristocrat which is a quote by Rumi **[FREQUENCY]**

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

J	C	D	O	C	X	Z	F	J	V	Y	F	D	U	G	C	R	C	X	D	E	V	Y	F	W	O	C	Z	O	E	U	N	F	W	I
Y	E	S	T	E	R	D	A	Y	I	W	A	S	C	L	E	V	E	R	S	O	I	W	A	N	T	E	D	T	O	C	H	A	N	G
C	O	N	C	Y	E	X	G	Z	O	E	Z	F	J	V	F	A	Y	V	D	C	D	E	V	F	A	U	N	F	W	I	V	W	I	A
E	T	H	E	W	O	R	L	D	T	O	D	A	Y	I	A	M	W	I	S	E	S	O	I	A	M	C	H	A	N	G	I	N	G	M
J	D	C	G	L																														
Y	S	E	L	F																														

17. (250.00 pts) The following quote needs to be decoded with the Vigenère Cipher with a keyword of SUPREME

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

E	S	B	F	X	T	I	J	N	D	C	H	Y	I	L	I	Q	V	E	X	E	V	S	.	P	E	H	R	S	J	B	T	I	,					
M	Y	M	O	T	H	E	R	T	O	L	D	M	E	T	O	B	E	A	L	A	D	Y	.	A	N	D	F	O	R	H	E	R	,					
X	T	E	L	G	T	R	R	F	F	W	S	D	L	V	A	A	F	J	T	I	W	A	R	,	T	Y	X	E	H	Q	T	W	H	S	V	R	F	.
T	H	A	T	M	E	A	N	T	B	E	Y	O	U	R	O	W	N	P	E	R	S	O	N	,	B	E	I	N	D	E	P	E	N	D	E	N	T	.

18. (250.00 pts) The following quote needs to be decoded with the Vigenère Cipher with a keyword of COURT

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

V	V	Y	J	M	C	H	Y	T	H	P	H	L	F	E	N	W	H	X	T	Y	C	G	R	G	Y	C	O	C	W	O	S	U	E
T	H	E	S	T	A	T	E	C	O	N	T	R	O	L	L	I	N	G	A	W	O	M	A	N	W	O	U	L	D	M	E	A	N

W	G	B	S	Z	G	I	V	Y	I	Y	W	Z	F	R	N	V	C	H	F	F	A	O	H	U	Y	W	Z	F	V	J	W	O	F	Z	M	A
D	E	N	Y	I	N	G	H	E	R	F	U	L	L	A	U	T	O	N	O	M	Y	A	N	D	F	U	L	L	E	Q	U	A	L	I	T	Y

19. (300.00 pts)

19) [300 points] Solve this Baconian that start with "WHENY"

*&025t&3w*250t&23w5t*&0325w*t03&2w*05t&325wt&25*t&025
t3&w*2053tw*&205t3&2w5t&*032w5t&2*05t&23w5*t&025t3w*&
25t&0253t&w25t*&250t3w&25*0t3w&2*50t&25t3&25t&w*25t03
w*&205t3w&25*0t3w&2*5t&0235t&25tw&25*t&25t03&25w*t03&
2w5t*&250t&3w*25t03&2w5*t03&2w*503t&w*2503wt&25t*&203
5tw&2*5t0&23w5*0t&235w*0t&235t&25t&2w5t*0&23w5*03tw&*&
0253wt*0&23w5t*03&25t&w25*0t&325wt&*2503tw*&250t&25t3
&w*205t&32w*50t3&w*250t&325wt&2*035wt&25*0t&253wt*&03
25w*t03&2w*5t03w&25t&*2503t&w25*t&0253wt*&2503tw*&032
5tw&*0235wt*0&235tw&2*5t&03w2*5t&2035t&2w*5

Expected Answer: When you see something that is not right, not fair, not just, you have to speak up. You have to say something; you have to do something

20. (300.00 pts)

20) [300 points] Solve this Baconian Cipher which is a quote that starts with "DON"

ABBOT A LORD A HOME CABLE CAIRO A FOUR CABLE CABLE

A CASE A FOUR A BOAT A LORD CABIN CALEB A BOOK A BABY

CABLE A CASE A DEAR A BOAT A FOUR A BODY A DEAR CAMPS

A FOUR CAIRO CALL A A LORD CAMPS A CALL A BABY A DEAL

A FOUR A CASE A DEAR A BOAT A FOUR A BEAT A FOUR

CABLE CABLE A FOUR CABIN A BABY A HOME ABBOT A BEAT

CAMPS A DEAR A CASE ABBOT CAIRO A LORD A CALL A FOUR

CABLE A BOOK A DEAR A HOME A BODY

Expected Answer: Don't settle for what life gives you; make life better and build something.

21. (600.00 pts) Solve this Xenocrypt which is a quote by Les Brown translated into Spanish.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

Q A X D J C

U S

E J C J N L J C

E J

K V K V Q J C

E A S C N L J C

C A S T J C

M U C H O S

D E

N O S O T R O S

N O

V I V I M O S

N U E S T R O S

S U E Ñ O S

Z J L H A S

K V K V Q J C

E A S C N L J C

Q V S U J C .

P O R Q U E

V I V I M O S

N U E S T R O S

M I E D O S .

22. (575.00 pts) Solve this Xenocrypt which is a quote by Nietzsche translated into Spanish

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

O Y

M R O F B F W Y W

R K

O Y

K R X K Y B F T X

W R

Z L R

R O

A T W R I

L A

F E L I C I D A D

E S

L A

S E N S A C I O N

D E

Q U E

E L

P O D E R

Y L U R X S Y

-

Z L R

O Y

I R K F K S R X B F Y

K R

R K S Y

K L A R I Y X W T

A U M E N T A

-

Q U E

L A

R E S I S T E N C I A

S E

E S T A

S U P E R A N D O

23. (300.00 pts) Decode this Hill cipher with keyword HILL. This question will also help you solve another question.

$$\begin{pmatrix} H & I \\ L & L \end{pmatrix} \equiv \begin{pmatrix} 7 & 8 \\ 11 & 11 \end{pmatrix}$$

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

H	A	E	Y	M	W	R	B	L	G	D	R	T	F	B	U	J	J	J	I	S	A	F	V	A	P
T	H	E	K	E	Y	F	O	R	T	H	E	N	E	X	T	H	I	L	L	I	S	P	U	S	H

24. (300.00 pts) Encode this text using a hill cipher. The keyword can be found in the answer of a different question

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

T	H	E	O	N	L	Y	J	O	Y	I	S	T	O	B	E	G	I	N
J	B	C	O	Z	Z	U	B	O	E	M	K	T	Y	R	U	Q	I	T

25. (450.00 pts) Special Agent, Jonathan, has the following RSA public key:

n = 503021 e = 69031

Unfortunately for them, A quantum computer has successfully factored their n

503021 = 661 * 761

Compute the value of their private key

330871

26. (300.00 pts) The following quote has been encoded using the Affine Cipher. You are told that the deciphered text starts with LI.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

Z	A	B	K	'	O	F	Y	W	S	J	,	L	W	F	A	F	'	O	F	Y	W	S	J	K	X	E	J	K	H	M	Y	W	'	X	K
L	I	F	E	'	S	T	O	U	G	H	,	B	U	T	I	T	'	S	T	O	U	G	H	E	R	W	H	E	N	Y	O	U	'	R	E
O	F	W	P	A	T																														
S	T	U	P	I	D																														

27. (300.00 pts) The following quote has been encoded with the Vigenère Cipher using a 7 letter key. The deciphered text starts with INT.

Type your letters below the corresponding given letters. Your letters can be lower or upper case.

A	P	B	L	R	N	S	F	I	Z	Y	A	V	L	W	U	P	E	E	R	I	K	V	E	I	N	R	S	F	Q	N	E	Y	N	M	K	C
I	N	T	H	E	L	O	N	G	R	U	N	T	H	E	S	H	A	R	P	E	S	T	W	E	A	P	O	N	O	F	A	L	L	I	S	A
S	M	A	F	E	F	F	O	I	A	V	P	W	U	X	M	E	K	X																		
K	I	N	D	A	N	D	G	E	N	T	L	E	S	P	I	R	I	T																		

28. (400.00 pts)

28) [400 points] A quote has been encoded using the Pollux Cipher for you to decode. You are told that 6=•, 4=•, 8=-, 2=•, 3=-, 9=x

8839175148297553618581394239566325765114544154349495883

9423919971894626518895863853119228554357865299219869346

9963396472573515932139131967199486458835224352552353246

51339743519517115381967854369624575282696432994499154744

942514514355465855639217452166591235429875846948557486

573571745682294675527917915138952837561645419871297

Expected Answer: ONCE YOU FIGURE OUT WHO YOU ARE AND WHAT YOU LOVE ABOUT YOURSELF I THINK IT ALL KINDA FALLS INTO PLACE

29. (400.00 pts)

29) [400 points] A quote has been encoded using the Morbit Cipher for you to decode. You are told that 5=-, 9=••, 2=x•, 7=-•, 8=x-, 3=•-

7 5 8 5 2 3 1 7 7 2 6 7 1 6 2 5 4 9 6 6 2 6 2 7 4

9 8 6 9 8 1 5 6 7 1 3 8 4 7 5 8 2 9 4 9 8 4 5 4 8

2 9 4 4 8 6 5 6 3 4 4 8 3 6 5 6 9 6 8 9 2 7 2 2 6

5 1 6 9 9 2 1 9 7 2 6 3 4 6 9 9 2 2 7 1 7 5 8 5 2 3

1 5 4 4 6

Expected Answer: YOU CAN T PUT A LIMIT ON ANYTHING THE MORE YOU DREAM THE FARTHER YOU GET

30. (425.00 pts)

30) [425 points] A quote has been encoded using the Pollux Cipher for you to decode. You are told that the quote starts with **INSI**.

774871222477602342140069618127976713831266327667011563732

423182442582136352173718584076197248430312986589100969833

62260960876156500645094268648056235684607791228656679

118283490189117286723677847817897128236898814722621527

175454216773217948811258677154232911938715581228120964880

43524697094734293517640287693042009102034951578494232

Expected Answer: INSIDE ME THERES A THIN PERSON STRUGGLING TO GET OUT BUT I CAN USUALLY SEDATE HIM WITH FOUR OR FIVE CUPCAKES

Congratulations on finishing! Don't forget to check your answers. Once you do, feel free to submit. Good luck on your other events! If you have any questions feel free to contact me at farzanshiju1@gmail.com or on Discord at fds#7731.