

Codebusters C

Virtual Country-wide Scilympiad Practice 2

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Hello and welcome to Scilympiad! Hopefully, this test will display how future Codebusters tests will be like in the near future. Hope you guys have a wonderful winter!

- Make sure you have read the rules and have downloaded this reference sheet (<https://scilympiad.com/Data/shared/testRefs/CodebustersReference.pdf>).
- You will have **50 minutes** to complete **16 questions**
- There is a **TIMED QUESTION**. To earn bonus points, click submit answer at the end of the question and it will tell you if it is correct or not.
- Tiebreakers are xenocrypts, patristocrats, and aristocrats in descending value order. After that teams that earn the same score will earn the same rank.
- Feel free to set up a communication call with your team members such as FaceTime, Zoom, or Discord.

If you have any questions or feedback about the exam, feel free to email me at martinmnguyen@utexas.edu.

1. (350.00 pts)

Solve this **ARISTOCRAT**. Make sure only one person is entering the letters or else your progress might be written over. Make sure to press SUBMIT when you think you have the correct solution. The system will notify you if your answer is correct and you will receive the appropriate time bonus.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	4	8	2	15	0	20	13	6	0	0	2	1	15	0	0	5	3	5	0	22	9	9	0	2	11	11	0
Replacement																											

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

2. (75.00 pts) Solve this **CAESAR** cipher.

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

B	A	L	A	N	C	E	.	T	H	E	R	E	'	S	W	H	A	T	Y	O	U	S	T	A	N	D	T	O	G	A	I	N	A	N	D	

W	H	A	T	Y	O	U	S	T	A	N	D	T	O	L	O	S	E	.

7. (250.00 pts) Solve this **BACONIAN** cipher. Hope you have good vision :)

```

:[] :[] :[] :[] :[] :[] :[] :[] :[] :[]
:[] :[] :[] :[] :[] :[] :[] :[] :[] :[]
:[] :[] :[] :[] :[] :[] :[] :[] :[] :[]
:[] :[] :[] :[] :[] :[] :[] :[] :[] :[]
:[] :[] :[] :[] :[] :[] :[] :[] :[] :[]
:[] :[] :[] :[] :[] :[] :[] :[] :[] :[]
:[]

```

8. (150.00 pts) A quote has been encoded using the **MORBIT** Cipher for you to decode. You are told that 3=×, 2=--, 4=●●, 7=x-, 5=xx, 8=●x.

```

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

```

9. (150.00 pts) A quote has been encoded using the **POLLUX** Cipher for you to decode. You are told that 8=x, 7=x, 4=--, 6=--, 2=--, 1=●.

```

1463759365851139140344505350013911439965640266751289254
961762471247023640226713488548161839035061935593494395
706053318576198634272467536095691239580217664769951763
853573686581

```

10. (250.00 pts) Solve this **HILL** cipher with the decryption key of LOAF. [11 14 0 5]

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

A	N	B	J	Y	R	W	D	B	W	E	S	X	J	C	M	Z	O	H	U	K	N	V	J	Q	D	A	N	V	S	V	M	A	F	C	A	N	O	R	U	C	V
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

11. (350.00 pts) Solve this **ARISTOCRAT** from *The Great Gatsby*.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	9	0	0	4	9	8	4	5	14	5	0	8	0	0	0	10	11	2	12	1	4	0	1	3	26	2	0
Replacement																											

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

I	R	X	G	O	I	D	X	X	J	L	F	T	P	R	X	Q	A	X	I	I	W	A	X	H	D	P	R	X	G	H	A	J	E				
H	W	P	I	L	E	X	O	F	E	I	R	X	G	O	F	P	X	E	P	H	I	X	X	R	L	S	O	F	E	D	X	X	J	R	L	I	
Q	A	X	I	X	F	V	X	Y	X	I	L	E	X	R	X	A	O	F	E	Y	X	A	X	O	I	I	W	A	X	E	P	R	O	P	I	R	X
G	O	I	E	H	L	F	T	P	R	X	A	L	T	R	P	P	R	L	F	T	O	D	P	X	A	O	J	J	.								
																												.									

12. (300.00 pts) Solve this **ARISTOCRAT**.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	10	7	3	8	5	15	12	4	4	11	0	1	4	3	0	5	0	1	2	6	0	3	6	10	0	1	12
Replacement																											

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

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

13. (450.00 pts) Solve this misspelled **ARISTOCRAT**.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	6	5	1	8	0	1	5	0	4	6	14	0	4	1	0	2	0	4	2	5	0	9	7	0	2	0	7
Replacement																											

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

D U Q	K S K	A ' O Z	X U B K	Z O Z G J K S A D I	K U U	J U M ,	M	B V J	J U M
Q V D K	K Q U	B K V G K	B U R Z K S A D I	D Z Q ,	V D	A K ' B	F G V C A D I		
R J	S Z G K	K S V K	J U M G	X Z V N A D I .					

14. (550.00 pts) Solve this PATRISTOCRAT which starts with AND.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	7	2	6	0	0	7	6	3	4	6	0	16	5	1	0	7	8	0	1	10	15	0	1	0	7	1	4
Replacement																											

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

T X Z R L	F S T G X	M H S C L	O G J S T	B L J S C	T S A L O	T M L T X
Z I L O T	M L O P F	S T M J O	T B L A C	L X A L C	T Y L P N	F P A X A
T H O G V	C S I T G	F M H F T	G J L J P	O L A P X	Z L F S C	T S A L T
F L J P I	P X Z P I	G S				

15. (650.00 pts) Solve this PATRISTOCRAT.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	0	6	0	0	4	1	5	4	0	12	2	0	4	5	0	2	11	4	14	1	0	5	6	10	0	2	6
Replacement																											

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

Q E J U V	R N B J Z	M G S J V	R N Q Z U	P P R W O	J U Y P E	J B J W P
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R	H	V	R	N	B	M	G	H	J	Q	G	P	E	W	R	F	J	K	R	Y	V	V	R	N	Q	Z	U	P	P	E	J	B	J	W
P	R	H	V	R	N	B	M	G	H	J	P	R	W	P	Z	B	P	Z	W	W	R	R	U	Z	W	O	R	W	W	G	K	M	J	

16. (600.00 pts) Solve this XENOCRYPT.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
Frequency	2	4	0	9	9	5	1	0	0	0	2	4	11	0	6	2	1	5	0	1	0	3	5	1	6	5	0
Replacement																											

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

K	L	D	V	X	E	V	D	K	Y	B	M	U	L	Q	Y	M	Ñ	E	V	X	E	Q	F	D	A	Ñ	Y	B	D	Q	M	V	F	E	Q	
E	W	E	Q	U	D	Ñ	D	S	L	M	U	L	X	Y	M	Ñ	D	P	M	Ñ	M	F	O	D	B	D	G	E	X	M	F	X	E	F	E	Ñ
X	M	B	Y	A	M	V	O	M	.																											

Congratulations on completing the exam! If you have any questions or feedback about the exam, feel free to email me at martinmnguyen@utexas.edu.