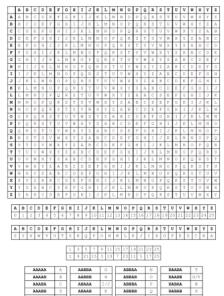
Codebusters C - Codebusters - Pearl City Invitational - 12-12-2020

In case you forgot your reference sheets, here's some for you. It might require quite a bit of scrolling, though.

The following tables might be useful during Codebusters.



Frequency Table of English letters:

Ε -	12.51%	8 -	- 6,54%	C	- 3	.06%	0 -	1.96%	K	-	0.679
T-	9,25%	В -	- 6.12%	0	- 2	.71%	W -	1.92%	×	-	0.199
A -	8.04%	H ·	- 5.49%	16	- 2	.53%	Y -	1.73%	J	-	0.169
0 -	7.60%	L	- 4.14%	F	- 2	.30%	В	1.54%	0	-	0.11%
Ι.	7,26%	D ·	- 3.99%	P	- 2	.00%	V -	0.99%	2	-	0.09%
и -	7.099										

Frequency Table of Spanish letters:

E	-	14.089	ĭ	-	5.98%	215	-	3.08%	Y	-	1.09%	2	-	0.479
A.	-	12.16%	$_{\rm L}$	-	5.24%	${\bf P}$	-	2.89%	٧	-	1.05%	Я	-	0.179
0	-	9.20%	D	-	4.67%	В	-	1.49%	G	-	1.00%	х	-	0.14%
S	-	7,20%	7	-	4.60%	В	-	1.18%	F	-	0.69%	К	-	0.11%
N	-	6.83%	IJ.	-	0.69%	Q.	-	1,119	J	-	0.52%	W	-	0.04%
TO.		6.410		_	3 075									

For the purposes of cryptograms it is customary to treat n and fi as distinct letters, but a and a are the same letter. Likewise for e and e, and i and. In other words, at the accent marks get amputated when working with cryptograms. Also, white some other Sparish dictionaries consider of, it, and nr. to be their own letters—this has fallen out of modern usage. Accordingly, "turno" is considered as five letters, "b-u+-e-d" and not as flow infilleds "b-u-n-o."

Morse Code:

A	•	F	••-•		К	-•-		P	••		U	••-
В		G			L	•-••		Q			V	***-
С	-•-•	Н	••••]	М			R	•-•		W	•
D	-••	- 1	••		N	-•		s	•••		X	-••-
Е	•	J	•]	0			T	-		Y	-•
							_				Z	
		 		_			_					
0		2	••		4	••••		6			8	••
1 1	•	3	***	7	5	*****	\neg	7		1	9	•

	Ε	1	-	Т]												
••	ı]	•	Α]		N]		М	1						
***	S	1	**-	U	1	••	R	1	•	W		-**	D		K	• G	(
****	н	1	***	٧	1	••-•	F	1	•-••	L		••	Р	•	J		
	В]		Х]		С]		Υ			z		Q		
	0	1	•	1	1	••	2	1	***	3		••••	4				
•••••	5]		6]		7]		8			9				

1. (450.00 pts) Solve this aristocrat. That is all. And, it's not timed, so no pressure.

	A	В	С	D	E	F	G	н	I	J	K	L	М	N	Ñ	0	P	Q	R	s	Т	U	٧	w	X	Y	z
Frequency	3	7	0	0	2	2	2	6	11	1	10	8	3	1	0	4	6	2	0	2	0	0	0	1	5	10	0
Replacement																											

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

														,																		,					
1	x	L	P	Н	S	K	Y	I	E	Н	L	N	Р	K	В	Y	I	X	K	В	A	X	I	Y	,	M	0	J	E	K	В	Н	ı	X	L	. Р	Н
Y	K	В	G	Y	Р	0	ı	K	K	В	Н	Y																									

2. (200.00 pts) Decode the following aristocrat using the K1 Alphabet set which is a quote from Winston S. Churchill, a prime minister of the United Kingdom.

				-	Н									\rightarrow	\rightarrow																																					
	-	ency			6	0	5	0	5	3	1	2	7	0	0	3	0	0	6	6	C) (0 2	2	7	10	5	0	0	0	0																					
Rep	olac	ceme	ent																																																	
pe :	your	ır lett	ers	belo	w t	he c	orre	spon	ding	give	n le	tter	s. Yo	ur le	etter	rs ca	an I	be lo	owe	r or	upp	er c	ase.																													
	٧	D	D)	F	Т	т		J	т	(0	Р	U		G	Τ,	J	0	В	N	И	;	G	В	3 ,	J	М	٧	s	F	:	J	1	Т		0	Р	U		G	E	3	U	В	3	м	:	Ι,	J	U	
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						_					_																						_																			_
·	Т		U	ı	F		D	Р	٧	s	ı	В	Н	F		U	ı	Р	-	D	P	0	U		J	0	٧	F		U	ı	ı	В	U		D	P	٧	'	0	U	T	-									
(1	50.0	00 p	ots)	L	Jsir	ng a	ded	ryp	tion	key	of	BR	UH	, de	eco	de 1	the	str	inç	CA	ΙN	PF	YYO	RI	ик	NS	LY	usir	ıg tl	ie F	Hill C	Ciph	ner v	vith	ı a	26-	cha	rac	ter	alp	hat	et										
pe :	your	ır lett	ers	belo	w t	he c	orre	spon	ding	give	n le	tter	s. Yo	ur le	etter	rs ca	an I	be lo	owe	r or	upp	er c	ase.																													
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pe :	your H	r lette	ters	B	ow t	the d	orres	spon T	ding	give	n le	tter	s. Yo	ur le	etter	rs ca	an I	be lo	owe	er or		er c	ase.				1 [w		A	S		T	0		D	F	2	0	P		(D	U	Т		
pe :	your H	E !	S	B C	ow t	the d	orres	spon T	ding	give	n le	tter	s. Yo	ur le	etter	rs ca	an I	be lo	owe	er or		er c	ase.				1 [w		Α.	S		T	0		D	F	1	0	P			D	U	Т		
ре ; Г	your H	r lette	S S	B C	E	H (orres	spon T O	D	give	n le	C	s. Yo	ur le	l	rs ca	o O	N	owe	I	upp	E	v		E	R		M	Α	D	E																					
pe ;	your H	E S	S S	B C	e F	the c	orres	o O	D L usir	give	n le	C	s. Yo	s S abe	I I	rs ca	an I	N nich	is	a qu	uot	E from	v v	Gu	E	R	Ch	M	A	D	E an-A																					
(20)	F	E	S S	B C	e bearing	ari	orres D	o E	D L usir	give	n le	C C (2 a	s. Yo	ur le	I I	rs ca	an I	N nich	is	a qu	uote	E e fro	om (Gu	E rba	R ksh	Cr V	M naha W	A al, li	D ndia	E an-A																					
(20)	H F COO.C	E COO p	S S	B C	e bearing	ari	orres D	o E	D L usir	give	n le	C C (2 a	s. Yo	ur le	I I	rs ca	an I	N nich	is	a qu	uote	E e fro	v v	Gu	E rba	R ksh	Cr V	M naha W	A al, li	D ndia	E an-A																					
(20ecc	H F COO.C	E	S S	B C	e bearing	ari	orres D	o E	D L usir	give	n le	C C (2 a	s. Yo	ur le	I I	rs ca	an I	N nich	is	a qu	uote	E e fro	om (Gu	E rba	R ksh	Cr V	M naha W	A al, li	D ndia	E an-A																					
(20)	H F COO.C	E COO p	S S	B C	e bearing	ari	orres D	o E	D L usir	give	n le	C C (2 a	s. Yo	ur le	I I	rs ca	an I	N nich	is	a qu	uote	E e fro	om (Gu	E rba	R ksh	Cr V	M naha W	A al, li	D ndia	E an-A																					
(20 ecc	F 200.0 que	000 pe the	sers	B C	Fing B	g ari	stoc	rat E	L usir F 2	give	e K	C C C	s. Yo	abe	et ty	rpe M 6	wh	nich Ñ	is (a qu	uote 2	e fro	oom (Gu S	E rba	R ksh	Cr V	M naha W	A al, li	D ndia	E an-A																					
(20)	your F COO.C que	00 pe the	S S obts)	B C	F B 1	g ari	orres	pspon T O Erat Spon	L usir F 2	give g th G give	e K H 7	C C	s. You	abe	etter	rpe M 6	wh N 6	N N N N N N N N N N N N N N N N N N N	is (1	a quality of the series of the	uoto 2	e fro	om (Gu S	rba T 3	ksh U	Cr v	Mahaha W	A x 3	ndia Y	E Z 4	me	rica	n e	entr		ene	eur \	who	o fo	und	ded		ver	ral a	ad	СО	mpa	anie	es.		
(20)	F 200.0 que	00 pe the	S S obts)	B C	Fing B	g ari	stoc	rat E	L usir F 2	give g th G give	e K H 7	C C	s. Yo	abe	etter	rpe M 6	wh N 6	N N N N N N N N N N N N N N N N N N N	is (a qu	uoto 2	e fro	oom (Gu S	E rba	ksh U	Cr V	Mahaha W	A x 3	ndia Y	E Z 4		rica	n e	entr			eur \	who		und					ad		mpa	anie			V
(20)	your F COO.C que	00 pe the	S S obts)	B C	F B 1	g ari	orres	pspon T O Erat Spon	L usir F 2	give g th G give	e K H 7	C C	s. You	abe	etter	rpe M 6	wh N 6	N N N N N N N N N N N N N N N N N N N	is (1	a quality of the series of the	uoto 2	e fro	om (Gu S	rba T 3	ksh U	Cr v	Mahaha W	A x 3	ndia Y	E Z 4	me	rica	n e	entr	epr	ene	eur \	who	o fo	und	ded		ver	ral a	ad	СО	mpa	anie	es.		1
(2) (ecc	F COO.C ode	000 p	S S Pots) ent	B C C	Fing B	g ari	stoc D 7	o Errat E 3	L usir F 2	give g th G give	e K H 7	C C	s. Yo	ur le	et ty	rpe M 6	wh N 6	nich Ñ	is (1)	a qu	upp () 2	e fro	om PR SP	Gu S	E rba	R ksh	Cr V 2	M o	A X 3	D ndia	E G	me	M	n e	entr	epr	c	eur \	who	o fo	und	ded		ver	ral a	ad	СО	mpa	anie	es.		J
(20)	your F COO.C que	000 p	S S obts)	B C C	F B 1	g ari	stoc	o Errat E 3	L usir F 2	give g th G give	e K H 7	C C	s. Yo	abe	etter	rpe M 6	wh N 6	N N N N N N N N N N N N N N N N N N N	is (1)	a quality of the series of the	upp () 2	e fro	oom (Gu S	E rba	ksh U	Cr v	M o	A X 3	ndia Y	E Z 4	me	rica	n e	entr	epr	c	eur \	who	o fo	und	ded		ver	ral a	ad	СО	mpa	anie	es.		J

6. (400.00 pts)

The following symbols encodes a phrase by Albert Einstein using a Baconian Cipher. What does it say?

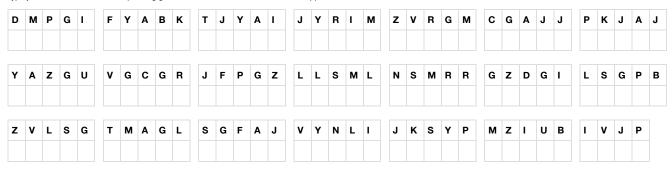
ABABA ABBAB ABBAB ABAAB AAABB AABAA AABAA ABBBA ABAAA ABBAA BAABA BAABA ABBAA AAAAA BAABA BAABB BAAAA AABAA AABAA AABAA AABAA AABBA AAABB BAABB AABBA AABBA ABBAA AABBA AAAAA ABBAA AABBA AAABB AABAA BAABA BAABA BAABA BAABA BAABA BAABA AABBA AABBA AABBA AABBA AABBA AABBA AABAA ABBAA AABBA AABAA BAABA BAABA BAABA BAABA BAABA BAABA BAABA AABBA AABBA AABBA AABBA AABBA AABBA AABBA AABBA AABAA BAABA BAABA BAABA BAABA

Please type the decrypted message below.

7. (600.00 pts) This patristocrat by Seto Kaiba has "products" somewhere in it.

	A	В	С	D	E	F	G	н	ı	J	K	L	М	N	Ñ	0	P	Q	R	s	т	U	٧	w	X	Y	z
Frequency	7	3	2	2	0	3	13	0	7	10	3	7	7	2	0	0	6	0	5	6	2	2	5	0	0	6	6
Replacement																											

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



8. (325.00 pts) This aristocrat by David Attenborough contains the word "such".

	Α	В	С	D	Е	F	G	н	ı	J	K	L	М	N	Ñ	0	P	Q	R	s	т	U	٧	w	X	Y	z
Frequency	5	1	0	6	4	2	4	0	6	4	9	1	0	0	0	1	0	1	0	8	5	2	3	3	5	2	9
Replacement																											

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

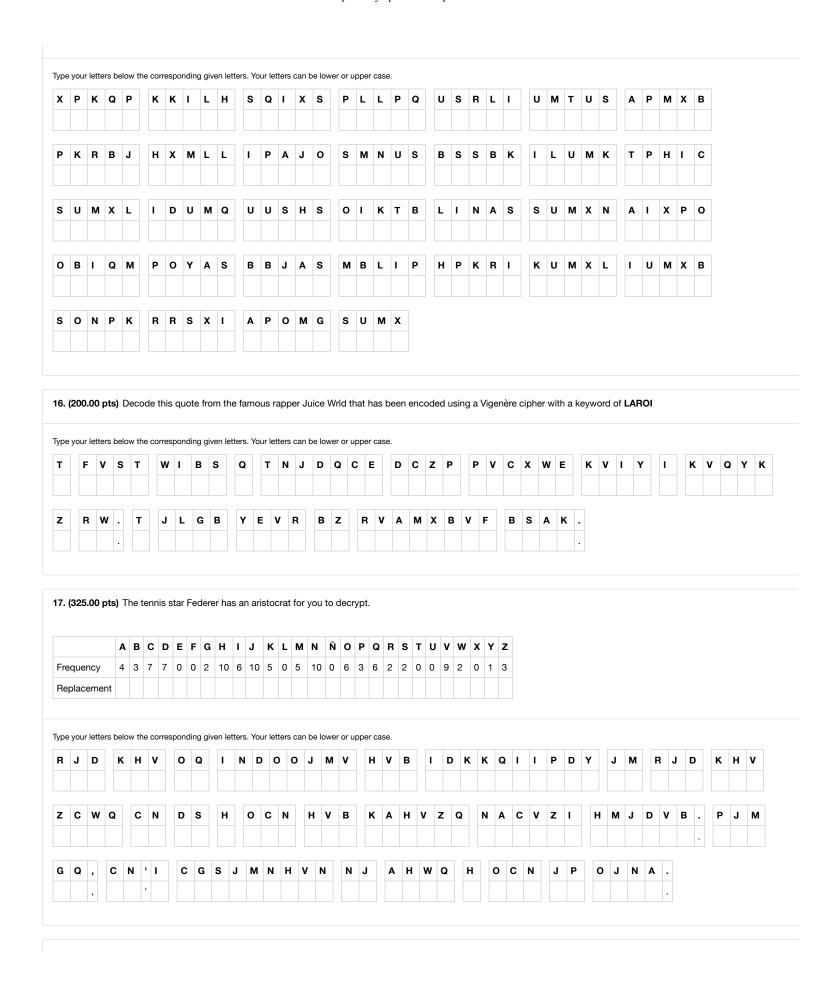
	<u>'</u>																														L								
F	K	I	s	U	V	Q	Т	J	K	Т	1	J	L	D	Z	s	Α	E	Α	I	s	D	Z	X	s	G	D	Z	X	ı	I	Т	0	G)	X	K	K	W

D ' F | I Y V Z Z D Z X E K T Z W S G A Y K E J W J K K B D Z X V S S G A

U K E S T Z A .

9. (150.00 pts) Encode the following quote from famous basketball player Kyrie Irving using a Vigenère Cipher with the key FLAT Type your letters below the corresponding given letters. Your letters can be lower or upper case. WANT Т 0 KE E P DEF E N E S s NG. Υ O U Т н Ε s 10. (400.00 pts) Decode this K2-encoded aristocrat that is a quote by Kary Mullis. A B C D E F G H I J K L M N Ñ O P Q R S T U V W 12 0 15 5 4 1 9 0 3 4 0 0 3 11 5 6 3 8 11 1 0 8 8 7 Frequency Replacement Type your letters below the corresponding given letters. Your letters can be lower or upper case. C C G s ' R С S K N 0 G U 0 N D N 0 0 D С В м н G U Κ Х G М Q Х 0 Е С Q s Е С s С 0 Ρ D X s М s М X N О N Χ 0 E 0 s G 0 0 11. (675.00 pts) Oh no! Did I drop my quote by Frederick Sanger into my Spanish translator again? How does this keep happening. Oh well, you can solve it anyway. 10 5 0 10 7 Frequency 2 15 0 11 5 0 0 5 0 Replacement Type your letters below the corresponding given letters. Your letters can be lower or upper case. D М Х Κ Ε K Ν W 0 s С D Т D Т D M X Ν 0 Κ s н н S Т D Х Κ W Κ Х 0 s М W Κ J Ν M X s w T Κ W Ν D Κ Ρ D Н Н 0 Κ Н 0 K M М 0 W K w N D Κ М Х Κ w K X 0 Ε 0 D w Κ

12. (175.00 pts) Decode the following rapper quote by Polo G using an affine cipher with a = 21 and b = 7 Type your letters below the corresponding given letters. Your letters can be lower or upper case. V T X T V ٧ Р z K P A Q CNX H L v Ν т U Х Х D Q Z L Т н U Q т U С В Q Q Q s R Ν N Т **13.** (275.00 pts) Solve the following Pollux cipher. 1,3=0, 4,5=-, 2,6=X. 867007609383232633617726579558927734914204072304636913 651227595324058956170190125365539230564325970614109201 9499716707291353673651613633327031636807 14. (375.00 pts) Decode the following aristocrat which is a quote from Satya Nadella, the CEO of Microsoft. A B C D E F G H I J K L M N Ñ O P Q RST 4 0 2 1 1 2 5 1 11 1 1 2 1 0 0 0 1 13 0 8 10 5 7 0 7 8 5 Frequency Replacement Type your letters below the corresponding given letters. Your letters can be lower or upper case. Q F χU UY QΙ Υ ٧ z c G s Q С s G V Т Q T X V D Z Т х s T χU U QI п т G ш Υ V Q L Т Х s Т s G ν т Q V s G м і F Q L Q Α Т Q s Υ Z Z Q Q Т 15. (500.00 pts) Decipher this patristocrat by a renowned sociologist. It has been encoded with a K1 alphabet with the keyword BOUNTIFUL. ΝÑ 0 QRS 7 10 Frequency 15 3 10 11 14 4 0 14 5 5 18 3 13 0 Replacement



18. (125.00 pts) Using a key of WRLD, encode the string LEGENDNEVERDIE using the Hill Cipher with a 26-character alphabet

$$\begin{pmatrix} W & R \\ L & D \end{pmatrix} \equiv \begin{pmatrix} 22 & 17 \\ 11 & 3 \end{pmatrix}$$

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

L	E	G	E	N	D	N	E	٧	E	R	D	I	E

19. (375.00 pts) Solve this aristocrat by the man who toppled the Aztec Empire, Hernan Cortes.

	A	В	С	D	E	F	G	н	ı	J	K	L	М	N	Ñ	0	P	Q	R	s	Т	U	٧	w	X	Y	z
Frequency	4	5	1	8	0	3	7	0	9	6	4	6	3	13	0	1	6	0	1	2	7	4	7	2	0	8	9
Replacement																											

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

ı	V	D		Т	N	С	N	J	D	1	- L	. !	N .	J	F	K	٧	N	A	V	F	3	P	N	М	Т	G	Р	U	L	C	G	N	G	ı	Z	J	A
Z	J	Т		В	N	s	V	ı	G	E	3 2	Z I	ı	N	s	P			Z	A	P	U		Y	В		ı \	N	G	ι	JL	. D	Α	. N	I Y	F	, (ì
Т	L	N	J	F		U	D	L	w	N	ı	G] [:	Z	W	Z	J	I	l ,	Y	K	z	М	I F	:	В	Y	L	Z	K	(V	' Y	N	I D)	Т	Z	0
K	N	ı	V	Y	F	P		В	Y	Y	т																											

20. (400.00 pts)

The following symbols encodes a phrase by Jonathan Lyndale Kirk using a Baconian Cipher. What does it say?

ABAAA ABABB BAAAA AABAA AAAAA ABABA ABABA BABBA BAABA BAABA AABBB AABAA AAAAB AAAAB BABBA BAAAB AABBB AABAA ABAAB ABBAA ABBAB BABAA BAABA BAABA BAABA BAABA BAABA BAABA BAAAA BAABA BAAAA BAABA AAAAA BAABA AAAAA BABAB AABAA AAAAA BABAA AABAA AABAA AABAA AABAA AABAA AABAA AABAA AABAA BABAA AABAA BABAA AABAA BABAA BABAA BABAA BABBA

Please type the decrypted message below.

21. (550.00 pts) Here's a patristocrat from a song, from a movie, from the legendary High School Musical trilogy (luckily, it's not Humuhumunukuapua'a).

			1	A E	3	C	D	E	F	G	Н	1	J	K	L	М	N	Ñ	o	P	2 F	S	T	U	٧	W	X	Y 2	Z										
Fre	que	ncy	1	1 5	;	6	3	4	6	12	15	0	1	3	1 (3	12	0	1 (0 3	3 2	18	3 7	10	0	1	1	0 (0										
Rei	nlac	emer	nt		t																						+												
	p.uo	00.																																					
уре	your	r lette	rs be	low	the	con	esp	ono	ding	give	en le	tters	. You	ır let	ters (an b	oe lo	wer	or up	per	case																		
В	s	н	N	G		F	F	Ţ	U	т	х	1	s	N	U	s	G	1 [E	K	С	s	М	G	s	Е	N	1 I	Н	N	Q	D	Т	L	s	N	U	G	Н
							ľ					╁						-							+	+	+				ļ.,	F	-	-	ŀ		+	-	
Н	R	D	D	s		С	Н		В	s	s	1	N	В	s	F	F	1 [G	K	Q	N	С	Т	K	Н	(. I	E	Н	N	s	Т	М	Q	w	С	G	1.1
	Ë	-	_	_		_	ŀ.	+	_	_	-	- -	-	_	_	Ė	Ė	+ -	_	•	_	••		ŀ	+	+	Ŧ	_	-		·`	+	ŀ.		-	+**	+	Ť	-
																								L															
U	s	н	т	Е		м	Т	Τ,	F	F	N	1	U	s	н	s	м	1 [G	С	N	Α	м	G	Н	U		3 1	н	0	R	н	N	В	G	н	u	G	U
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Т	М	N	U	С		s	s	T	В	G	н	1	U	s	н																								
			_	_		_	ľ	+	_	_	H	- -		_	-																								
2.	(400	.00 p	ots)	Dec	coc	le th	ne f	ollo	owi	ng a	arist	ocra	at w	hich	is a	qu	ote '	fron	n Ch	nuck	Yea	ger,	the	first	oers	on t	he b	orea	k th	e so	und	barri	ier ir	leve	l fligh	ıt.			
				\ E	2	С	D	F	F	G	н			ĸ		м	N	Ñ	O	Р	Q I	2	ς т	U	v	w	x	Υ	7										
r				+	+	-	-					-		-							-	-	-	-				-		-									
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Congratulations on surviving the test! Take a minute to rest, maybe eat a bag of chips or drink some soda; you deserve it.

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