

Q1 Commands**10 Points**

List the commands used in the game to reach the ciphertext.

go
go
read

Q2 Cryptosystem**10 Points**

What cryptosystem was used in this level?

Substitution Technique -poly-alphabetic cipher - Gronsfeld cipher - a variant of Vigenere cipher

Q3 Analysis**20 Points**

What tools and observations were used to figure out the cryptosystem?

NOTE: Failing to provide proper analysis would result in zero marks for this assignment.

First we tried to solve the ciphertext using frequency analysis and substitution but failed to get any sense.

In the second window of game which opens after entering "go" command we started to count the number of -- lines in horizontal dimension.

In the first line we got 9 -- lines.

In the second line we got 2 lines in the horizontal dimension .

Similarly after counting for all 10 lines the number we got was =
9292552221

Since , frequency analysis failed and the game said the above number to be useful we knew it must be used in some way to solve the ciphertext.

The cipher which uses numbers as key and alphabets as ciphertext is Gronsfeld cipher

Taking first two words of ciphertext "kg fcwd" and using the number "9292552221"

If we add the above number to rank of each alphabet in "kg fcwd" with 9 being added in k, 2 being added in g, 9 being added in f, 2 being added in c, 5 added in w, 5 in d, we get "ti oeb " which again does not make any sense.

However if we subtract the number from rank of each alphabet in the word with 9 being subtracted from k, 2 subtracted from g, 9 subtracted from f, 2 subtracted from c, 5 subtracted from w, 5 subtracted from d we get "be wary" which are proper words with well defined meaning.

Similar steps were repeated to solve the ciphertext and the cryptosystem thus figured is that it uses Gronsfeld cipher

Q4 Decryption Algorithm

15 Points

Briefly describe the decryption algorithm used. Also mention the plaintext you deciphered. (Use less than 350 words)

The decryption algorithm that we used is subtracting the rank of alphabets in the ciphertext with the number 9292552221 repeatedly .

We use the following table to do that :

	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	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
-1	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

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

Using above table we subtract the number 92925552221 repeatedly from the ciphertext to decode it .

The ciphertext is decoded as follows:(initial few words being decoded)

k g f c w d q h v i n p n z y h j c o c n t c j j w g
 k u w n t h n n y v
 -9 -2 -9 -2 -5 -5 -2 -2 -2 -1 -9 -2 -9 -2 -5 -5 -2 -2 -2 -1 -9 -2 -9 -2 -5 -5 -2
 -2 -2 -1 -9 -2 -9 -2 -5 -5 -2
 b e w a r y o f t h e n e x t c h a m b e r t h e r e
 i s v e r y l i t t l

Using the above technique we decode the entire ciphertext which is as follows:

be wary of the next chamber, there is very little joy there. Speak out the password "the_cave_man_be_pleased" to go through. May you have the strength for the next chamber . To find the exit, you first will need to utter magic words there.

Q5 Password

10 Points


What was the final command used to clear this level?

the_cave_man_be_pleased

Q6 Codes

0 Points

Upload any code that you have used to solve this level

 No files uploaded

Q7 Team Name

0 Points

hustler

Assignment 2

● Graded

Group

SANDULA LAVANYA

ABHIVADAN

SHRUTIKA ANIL JADHAV

 [View or edit group](#)

Total Points

55 / 65 pts

Question 1

[Commands](#)

10 / 10 pts

Question 2

Cryptosystem

R

 10 / 10 pts

Question 3

Analysis

R

 15 / 20 pts

Question 4

Decryption Algorithm

10 / 15 pts

Question 5

Password

10 / 10 pts

Question 6

Codes

0 / 0 pts

Question 7

Team Name

0 / 0 pts