

Q1 Commands**5 Points**

List the commands was used in this level?

go,go,put,climb,pluck,back,give,back,back,thrnxxtyz,read

Q2 Cryptosystem**10 Points**

What cryptosystem was used in the game to reach the password?

permutation and monoalphabetic substitution cipher

Q3 Analysis**30 Points**

What tools and observations were used to figure out the cryptosystem and the password? (Explain in less than 1000 lines)

Frequency analysis was done for the cipher text, then we did substitution cipher but we found "xxwa" in cipher text but in english there exist no word that has same starting two letters. This leads to that the cipher can be permutation substitution cipher.

Now, first task is to identify length of permutation key that was done by looking for repeating patterns in the ciphertext. The length of key came out to be 5. So blocks of 5 were constructed and next task was to identify the key.

The cipher text "snafq vml lhvqpawr" may be enter the password or speak the password due to prior encounter in previous levels. By using this we got "lhqsn afqvm llhvq" can map to "***en terth epass" or "***sp eakth epass" but if we carefully see there are two ss in password so there must be two letters in last block that we see are "l" so l maps to s, this

leads to higher probability that encoded text may be "speak the password" as in "speak" we have "s" and in cipher text block one "l" is present.

Now we look for common letters, in "eakth" and "epass" we have "e" & "a" common, looking at cipher text we get "q" and "v" common. So, this leads to the conclusion either "e" maps to "v" or "q" and same for "a". Now this concludes "h" maps to "p" that gives us 4 possible keys {4,5,2,1,3}, {4,5,2,3,1}, {5,4,2,1,3}, {5,4,2,3,1}. But possibilities can be discarded using "lhqsn" maps to "***sp" - and ultimately we are left with {4,5,2,1,3} and {4,5,2,3,1}. Then used both of the keys on by one for decrypting the text. Key- {4,5,2,1,3} gave meaningful results.

Hence the key is - {1 2 3 4 5} -> {4 5 2 1 3}, with the decrypted text - "breaker of this code will be blessed by the squeaky spirit residing in the hole. go ahead, and find a way of breaking the spell on him cast by the evil zaffar. the spirit of the cave man is always with you. find the magic wand that will let you out of the caves. it would make you a magician, no less than zaffar! speak the password the_magic_of_wand to go thrhgyo."

Substitution Map-

<!,._abcdefghijklmnopqrstuvwxyz > →

<!,._tviuchgpbqzskrjdawflmeoynx >

Q4 Password

5 Points

What was the final command used to clear this level?

the_magic_of_wand

Q5 Codes

0 Points

Upload any code that you have used to solve this level.


 No files uploaded

Q6 Group name
0 Points

team_7

Assignment 3

● Graded

Group
HARSH SAROHA
RASHMI BHIKAJI WAGHMARE
CHANDEKAR VIDISH VIJAY
 [View or edit group](#)

Total Points
41 / 50 pts

Question 1

[Commands](#)

5 / 5 pts

Question 2

[Cryptosystem](#)

8 / 10 pts

Question 3

[Analysis](#)

23 / 30 pts

Question 4

[Password](#)

5 / 5 pts

Question 5

[Codes](#)

0 / 0 pts

Question 6

[Group name](#)

0 / 0 pts