

Q1 Team Name

0 Points

Cryptophilic

Q2 Commands

10 Points

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

go
go
read

Q3 CryptoSystem

10 Points

What cryptosystem was used in this level?

Playfair cipher was used in this level. (Hint : PLAY FAIR was said by the spirit of Cave Man in the previous screen).

Q4 Analysis

20 Points

What tools and observations were used to figure out the cryptosystem? (Explain in less than 300 words)

The hint for Playfair cipher was given in the previous screen where the spirit of Cave Man said "You have been blessed, my child. Keep in mind that you must always believe in yourself and PLAY FAIR." There was a 'morse code' carved on the cave in the previous screen which translated to "CRYPTANALYSIS", which was the key to decrypt. This confirmed that the cryptosystem is 'Playfair Cipher' with key 'Cryptanalysis'. Therefore we generated a 5x5 grid using this key for decryption of the ciphertext. For the 5x5 grid, we first put letters from the key : 'CRYPTANLSI' in the first 10 blocks (no letters to be repeated), and then put the remaining alphabets in the 15 blocks in the alphabetical order. I and J were put in the same block which is done ideally in Playfair cipher because we have to put 26 letters of the alphabet in 25 blocks. This is how we completed the grid for decryption. After this, we used the decryption algorithm mentioned in next question to decipher the plaintext. (The 5x5 grid has been attached as pdf in question 7).

Reference website used for Playfair cipher :
<https://www.geeksforgeeks.org/playfair-cipher-with-examples/#:~:text=Decrypting%20the%20Playfair%20cipher%20is,messages%20made%20using%20that%20key.>

Q5 Decryption Algorithm

15 Points

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

To decrypt the ciphertext, we first broke it into pairs of 2 (digraphs), for eg - DF ULYP was broken into DF UL YP.
Then we used these three rules in the grid to decrypt the pairs :
1) If both letters are in same row - choose the letter to immediate left (if the letter is at leftmost, then choose rightmost letter for that).
1) If both letters are in same column - choose the letter directly above (if the letter is at topmost, then choose bottom-most letter for that).
3) If letters are in different rows and columns - First make a rectangle in the grid with those letters being at the opposite corners of rectangle. Then choose the letters at the opposite horizontal corners.

Using this algorithm, the plaintext deciphered by using our grid (attached in Q7) was :
BE WARY OF THE NEXT CHAMBER, THERE IS VERY LITTLE JOY THERE. SPEAK OUT 'X'
THE PASSWORD 'ABRA_CA_DABRA' TO GO THROUGH. MAY YOU HAVE THE STRENGTH
FOR THE NEXT CHAMBER. TO FIND THE EXIT YOU FIRST WIL'X'L NE'X'ED TO UTTER
MAGIC WORDS THERE.

Here we have some extra 'X' in 3 words which have been added to make to the number of letters even so that they can be broken into pairs of 2, therefore we need to discard these Xs and we will get our decrypted plaintext.

Q6 Password

10 Points

What was the final command used to clear this level?

ABRA_CA_DABRA

Assignment 2

GRADED

GROUP

Tanishq Rajesh Chourishi
Shubhi Kesarwani
Abhinav Maheshwari
View or edit group

TOTAL POINTS

65 / 65 pts

QUESTION 1

Team Name

0 / 0 pts

QUESTION 2

Commands

10 / 10 pts

QUESTION 3

CryptoSystem

10 / 10 pts

QUESTION 4

Analysis

20 / 20 pts

QUESTION 5

Decryption Algorithm

15 / 15 pts

QUESTION 6

Password

10 / 10 pts

QUESTION 7

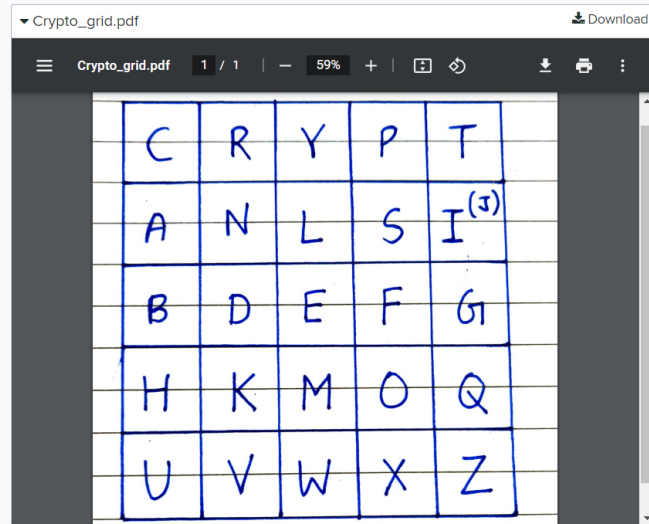
Code

0 / 0 pts

Q7 Code

0 Points

Upload any code that you have used to solve this level



Select a question.



Group Members

Submission History

Next Question >