Q1 Commands
5 Points

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

go to the top, read message, Enter, Read.

Q2 Cryptosystem
5 Points

What cryptosystem was used at this level?

substitution cipher

Q3 Analysis
25 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.

Substitution cipher-
kE : [a-z] ->[a-z] (1-1 mapping)

In substitution cipher each character from given set of characters [a-z] is replaced by some other character from same given fixed set of characters[a-z].

The given ciphertext in the game was-

"Mewa wa mey twsam iepjoys gt mey ipbya.
Pa xgn iph ayy, meysy wa hgmewhr gt
whmysyam wh mey iepjoys. Agjy gt mey kpmys
iepjoysa vwkk oy jgsy whmysyamwhr meph
mewa ghy! Mey iguy nayu tgs mewa jyaapry
wa p awjfky anoamwmnmwgh iwfeys wh vewie
uwrwma epby oyyh aewtmyu ox 8 fkpiya.
Mey fpaavgsu wa "mxSrN03uwdd" vwmegnm mey
dngmya."

Here we observe that the most frequent three letter word is 'mey' so this is probably 'the'. so we get t->m , h->e ,e->y . Similarly we observe 'mewa' and 'wa' which suggests 'wa' as 'is'. i->w, a->s. 'p' is single letter of word so it must be 'a'. observing 'twsam' we guess '_irst' so f->t. from 'meysy' we get 'the_e' this suggests r->s. 'gt' is guess to 'of'. we get 'pa' to be 'as'. Thus by observing words like this we get the whole text as-

"This is the first chamber of the caves. As you can see. There is nothing of interest int the chamber. Some of the later chambers will be more interesting than this one!. The code is used for this message is a simple substitution cipher in which digits have been shifted by 4 places. The password is 'tyRgU69diqq' without the quotes."

Taking about the digit, 03 is given and we know that it is shifted so try all shifts. The answer will be accepted when digits are shifted to 4 placed i.e. 03 is actually 69.

Q4 Mapping
10 Points

What is the plaintext space and ciphertext space?
What is the mapping between the elements of plaintext space and the elements of ciphertext space? (Explain in less than 100 words)

plaintext space and cipheretxt space are correspondingly 1-1

mapped.

Plaintext space :{ s,v,q,h,p,o,n,c,m,l,t,u,b,a,g,r,f,d,w,i,y,e}
Ciphertext Space: {a,b,d,e,f,g,h,i,j,k,m,n,o,p,r,s,t,u,v,w,x,y}

Mapping between elements of plaintext and cipher test is as follows.

plaintext -> ciphertext
a->p
b->o
c->i
d->u
e->y
f->t
g->r
h->e
i->w
l->k
m->j
n->h
o->g
p->f
q->d
r->s
s->a
t->m
u->n
v->b
w->v
y->x

Q5 Password
5 Points

What is the final command used to clear this level?

tyRqUI69digg

tyRgU09dIqq

Q6 Codes
0 Points

Upload any code that you have used to solve this level

No files uploaded

Q7 Team Name
0 Points

the_cryptonics

Assignment 1

Graded

Group

SONAM
TANEYA SONI
ABHISHEK KUMAR PATHAK
View or edit group

Total Points

30 / 50 pts

Question 1

Commands **5** / 5 pts

Question 2

Cryptosystem **3** / 5 pts

Question 3

Analysis R **13** / 25 pts

Question 4

Mapping **4** / 10 pts

Question 5

Password **5** / 5 pts

Question 6

Codes **0** / 0 pts

Question 7

Team Name **0** / 0 pts