Q1 Team name
0 Points

Stuxnet

Q2 Commands
10 Points

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

go, enter, pick, c, c, back, give, back,
back, thrnxxtzy, read

Q3 Analysis
50 Points

Give a detailed analysis of how you figured out the password? (Explain in less than 500 words)

After entering the above commands, we reached the terminal screen which showed us a problem, solving which we will get our password that we must enter to pass this level. It is mentioned that this is a problem of group theory, so we approached it in the way of Linear Algebra. We used those 3 pairs of numbers provided to us which was of the form (a, password*ga) to get the password.
Let, us write those 3 pairs as ➜
(a1, pass*ga1)
(a2, pass*ga2)
(a3, pass*ga3)
Let,
pass*ga1 = x1 ——-eq(1)
pass*ga2 = x2 ——-eq(2)
pass*ga3 = x3 ——-eq(3)

Now x1,x2,x3 are already given to us.

From eq(1) we found that,
pass = x1/ga1 ——-eq(4)

Now putting the value of password in eq(2), we get: x1/ga1 ∗ga2=x2

=⇒ ga2−a1 = (x2)(x1)−1 ——-eq(5)

We put the values of a2 and a1 in the above equation and computed (x2)(x1)−1. Similarly, putting value of pass in eq(3) we get another equation of the form ga3−a1 =
(x3)(x1)−1 ——-eq(6).

Since g is an element of Zp so, we use the modulo arithmetic to get the value of g
and put the value of g in eq(4) to get password. The way we obtained g is as follows ➔
g9189 /(g2021)4 = g1105
g9189/(g1105)8 = g349
g1105/(g349)3 = g58
g349/(g58)6 = g

The value of g that we get at last is 192847283928500239481729. Putting the value of g in equation 4 (given below) we obtain the password
pass = x1/ga1 ——eqn (4)

Q4 Password

10 Points

What was the final command used to clear this level?

360852885036840078603672 5

Q5 Codes

0 Points

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

No files uploaded

Assignment 3

GRADED

5 DAYS, 15 HOURS LATE

GROUP

YASH SARASWAT
MAYANK BANSAL
HIRAK MONDAL

View or edit group

TOTAL POINTS

70 / 70 pts

QUESTION 1

Team name — **0** / 0 pts

QUESTION 2

Commands — **10** / 10 pts

QUESTION 3

Analysis — **50** / 50 pts

QUESTION 4

Password — **10** / 10 pts

QUESTION 5

Codes — **0** / 0 pts