Steven Pyper

Cybersecurity & Cryptography Lab

Part 2 - Ciphers

Shift to the right 5 spaces on the alphabet. Loop z back to a. Lowercase becomes capitalized, capitalized becomes lowercase. Append two random lowercase numbers to the right of each letter. Do reverse to decipher.

ABCDEFGHIJKLMNOPQRSTUVWXYZ

"I love cryptography!" = nsd QsdTfdAewJer HreWqwDfdUweYsdTfdLhgWjhFhrUytMuyDiu! = I love cryptography!

Part 3 - Cybersecurity Research

The largest databreach in the past 20 years appears to be the Yahoo breach of 2013. It is stated that over 3 billion accounts were affected by the breach. It lead the hackers to obtaining login credentials, security question answers, email accounts, passwords, phone numbers, and birthdays. Massive distrust in Yahoo and a public education on the vulnerabilities of websites were a direct result of the breach. Yahoo was also slow to reveal the breach to the public and delayed revealing the scope of the breach until 2017.

Yahoo reportedly had bad security practices and was ultimately infiltrated through a phishing scheme. One unknowing employee clicking on a malicious link was all it took to open the door to the databases.

Since the attack happened, Yahoo updated their internal security procedures. They also required all accounts to update their passwords and login security question answers. All other security question answers were invalidated in their system. Although the hackers likely said "Yahoo!" when they were able to acquire 3 billion login credentials from Yahoo, no bank or credit card information was reported as stolen. Yahoo eventually reached a $117.5 million settlement for the breach.