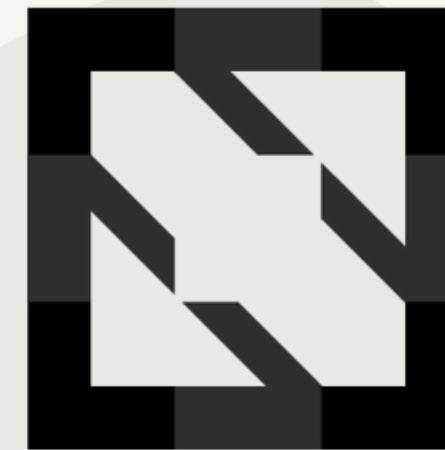


Deciphering Your Way to the World of Golang

--Mritunjay Sharma, SDE Intern, HackerRank



KubeCon



CloudNativeCon

North America 2021

Hello, I am Agent Mritunjay

Page 01

(Shhh... I am a final year Computer Science student and SDE intern at HackerRank too but let's not talk about it here... We are here for a reason 😊)

But hey what are we here for?
A memo, a lost treasure, a mystery of the second world war - we need to go now!



The Memo

Second World War will end in few days and peace will come but I want to leave something for you

Decipher it below and it's all yours

A treasure

The road to this treasure is written in a code

57656C636F6D6520746F204
B756265436F6E202B20436C
6F75644E6I74697665436F6
E204E6F727468204I6D6572
69636I203230323I

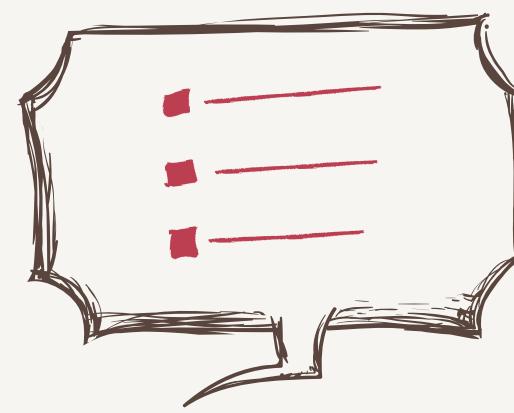
Ready Ready Ready Ready



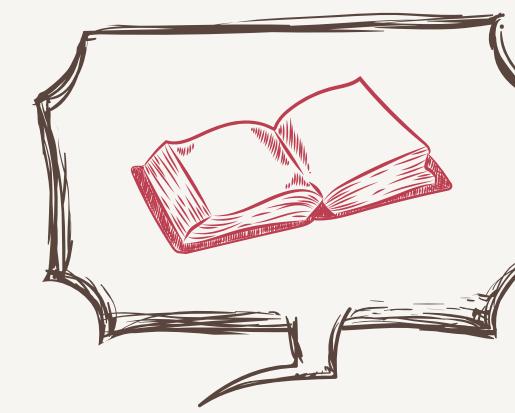
Are You Ready
for the Treasure
Hunt?

Let's go!

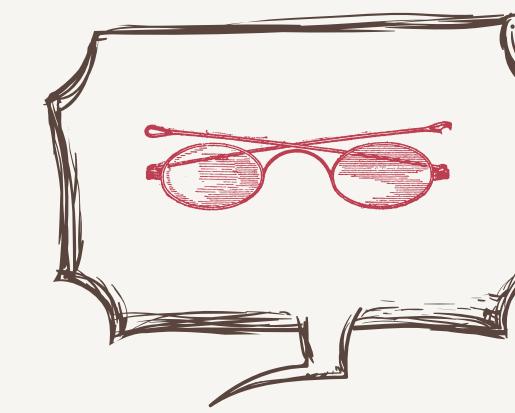
Let's Investigate



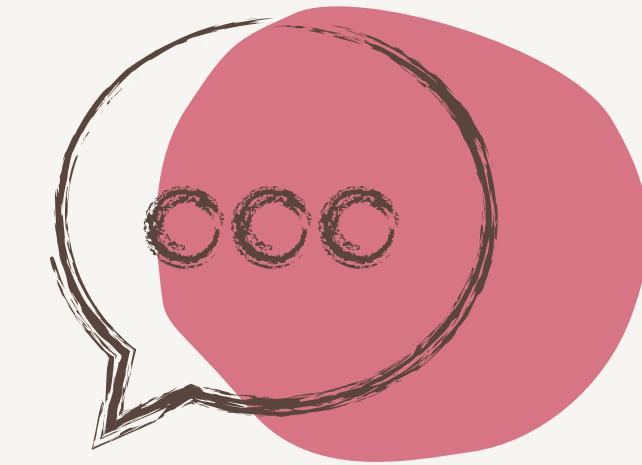
*The Code? The Code?
Hexcode!*



*Encryption? Yes Yes Yes!
Using XOR? OMG, Yes Yes
Yes, we are getting
closer!*



Property of XOR 😊
What's encrypted with XOR can
be decrypted with XOR, also we
are going to use - ETAOIN
SHRDLU which is the approximate
order of frequency of
12 most used letters.



Let's Go for it!

Oh we are in 21st century now, why to go about it solving manually when an application can do that for us

Let's Build in Golang!



Encrypted code

```
57656C636F6D6520746F204B756265436F6E202B20436  
C6F75644E6I74697665436F6E204E6F727468204I6D65  
7269636I203230323I
```



Let's go and code and fill the
decrypted message here!

Original Message **abcd**

Character	Byte		Encrypted Byte	Encrypted Character
a	97	$\oplus \text{ 69} \longrightarrow$	36	\$
b	98	$\oplus \text{ 69} \longrightarrow$	39	'
c	99	$\oplus \text{ 69} \longrightarrow$	38	&
d	100	$\oplus \text{ 69} \longrightarrow$	33	!

XOR

Single-byte XOR Cipher

Approach to solve this?

- Loop through all possible bytes (0-255)
- XOR the byte against each byte of our encrypted code
- Assign string a score based on the mapping
- The string returned with the highest score will be our decrypted message



Let's Build in Golang!



Encrypted code

```
57656C636F6D6520746F204B756265436F6E202B20436  
C6F75644E6I74697665436F6E204E6F727468204I6D65  
7269636I203230323I
```



Let's go and code and fill the
decrypted message here!

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Here's the [link](#) to the implemented code

Installing Golang

<https://golang.org/doc/install>

Why Golang?

- Built for concurrency
- Easier to learn
- Fast and great testing framework
- CloudNative technologies like Kubernetes already use it!

Resources to learn Golang!

- [A Tour of Go](#)
- [Official Docs](#)
- [Go by Example](#)
- [Gophercises](#)



Let's learn
Golang!



Thank You

Come, let us connect on Twitter 😊

Reach out to me at [@mritunjay394](https://twitter.com/mritunjay394)

Questions? Let's discuss

