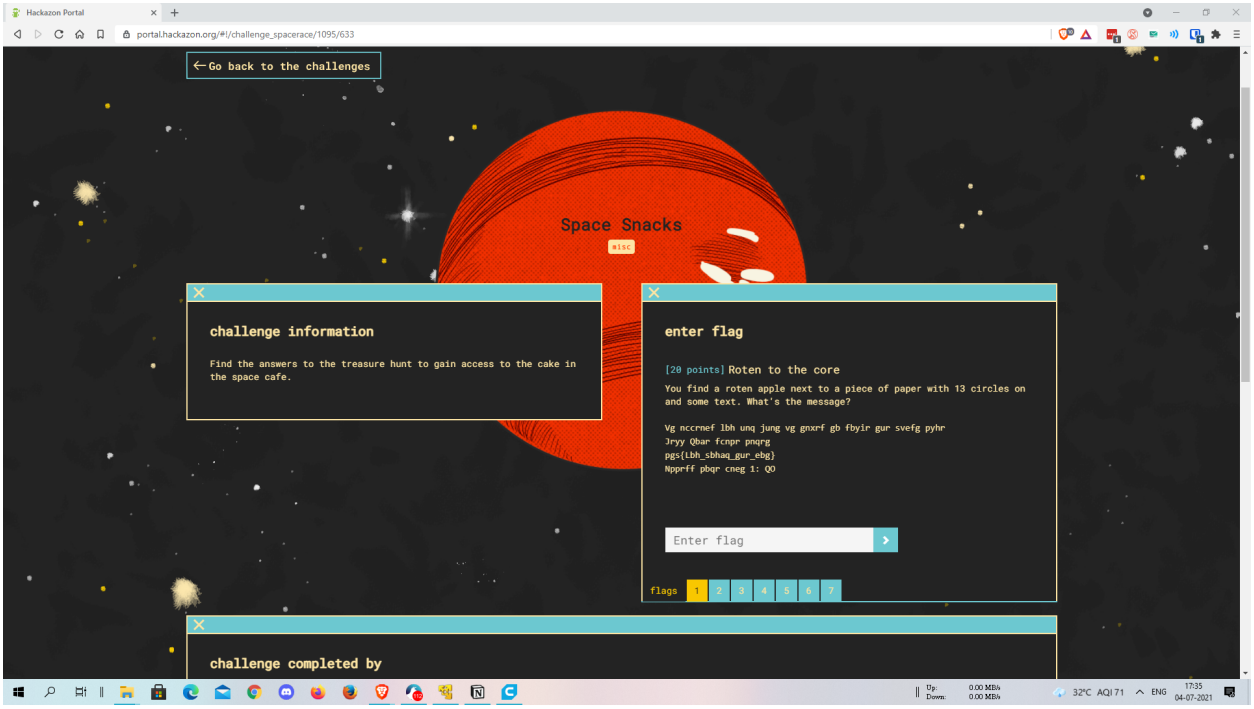
Space Snacks

- First Challenge :-

1> Roten to the core

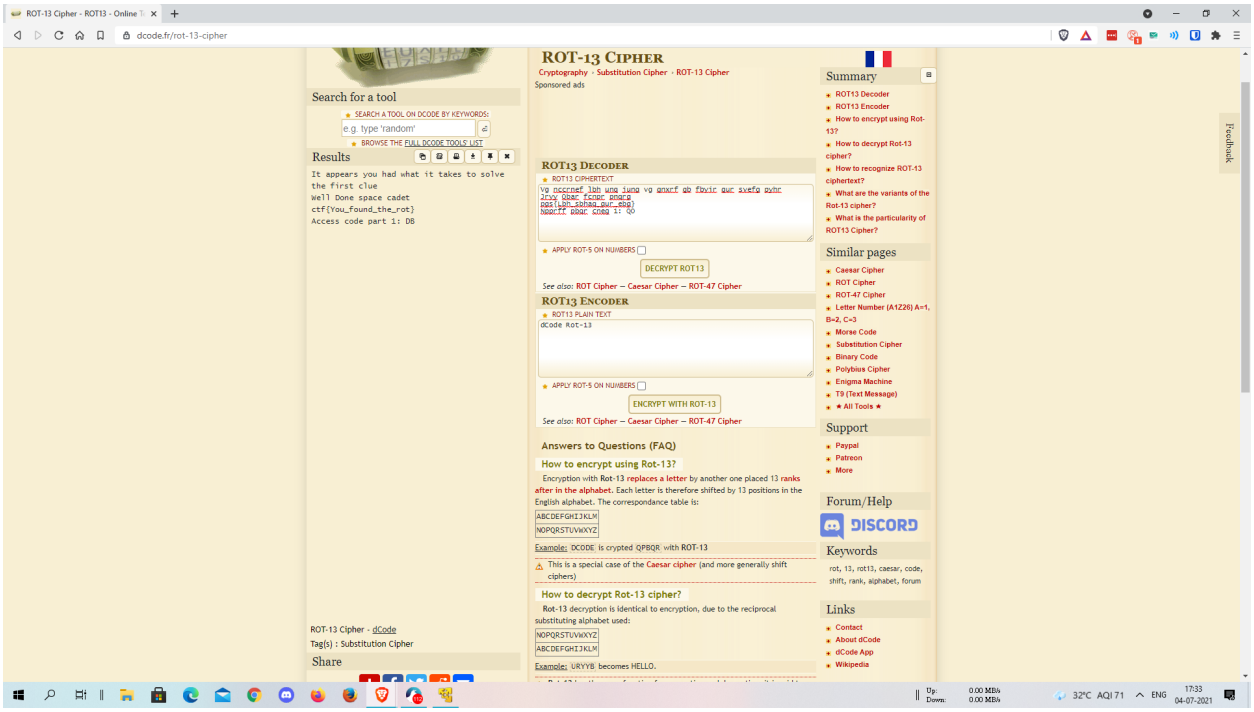
You find a roten apple next to a piece of paper with 13 circles on it and some text. What's the message?Vg nccrnef lbh unq jung vg gnxrf gb fbyir gur svefg pyhrJryy Qbar fcnpr pnqrgpgs{Lbh_sbhaq_gur_ebg}Npprff pbqr cneg 1: QO

Points [20 points]



- The title description provides us hint that it is about Roten apple and 13 circles which leads us to ROT 13 cipher when decoded it using the website dcode.fr/rot13 we get the message
- Deciphered Message

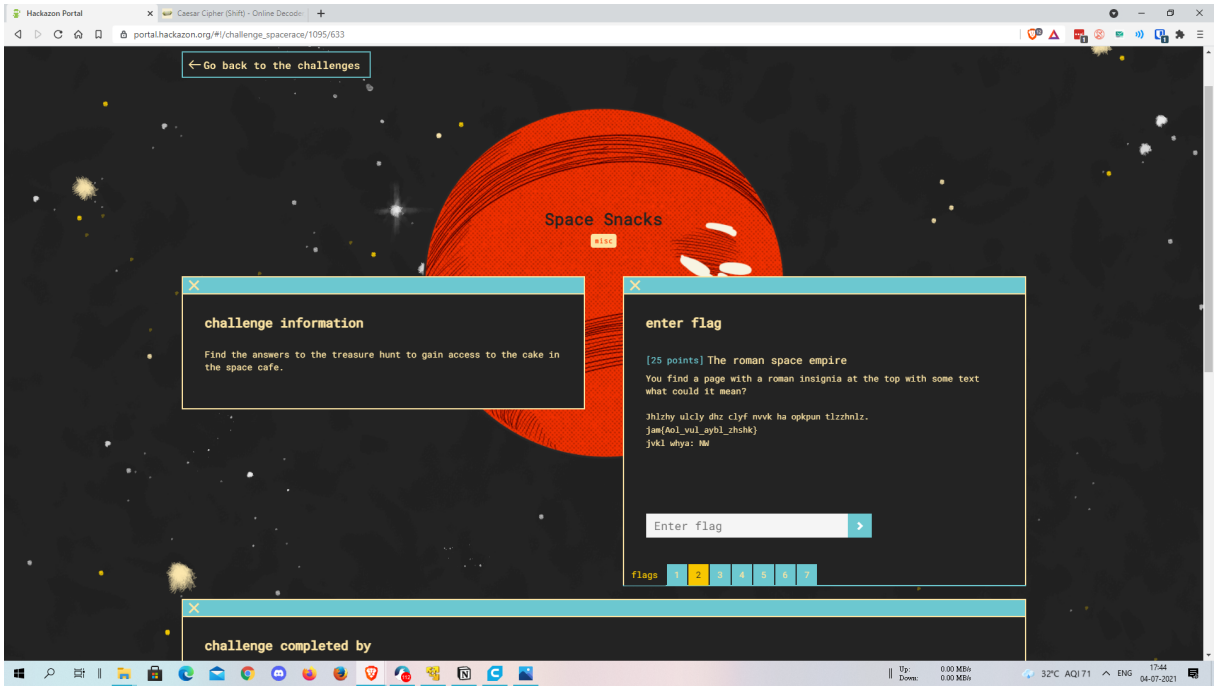
```
It appears you had what it takes to solve the first clue
Well Done space cadet
ctf{You_found_the_rot}
Access code part 1: DB
```



- Flag :- ctf{You_found_the_rot}

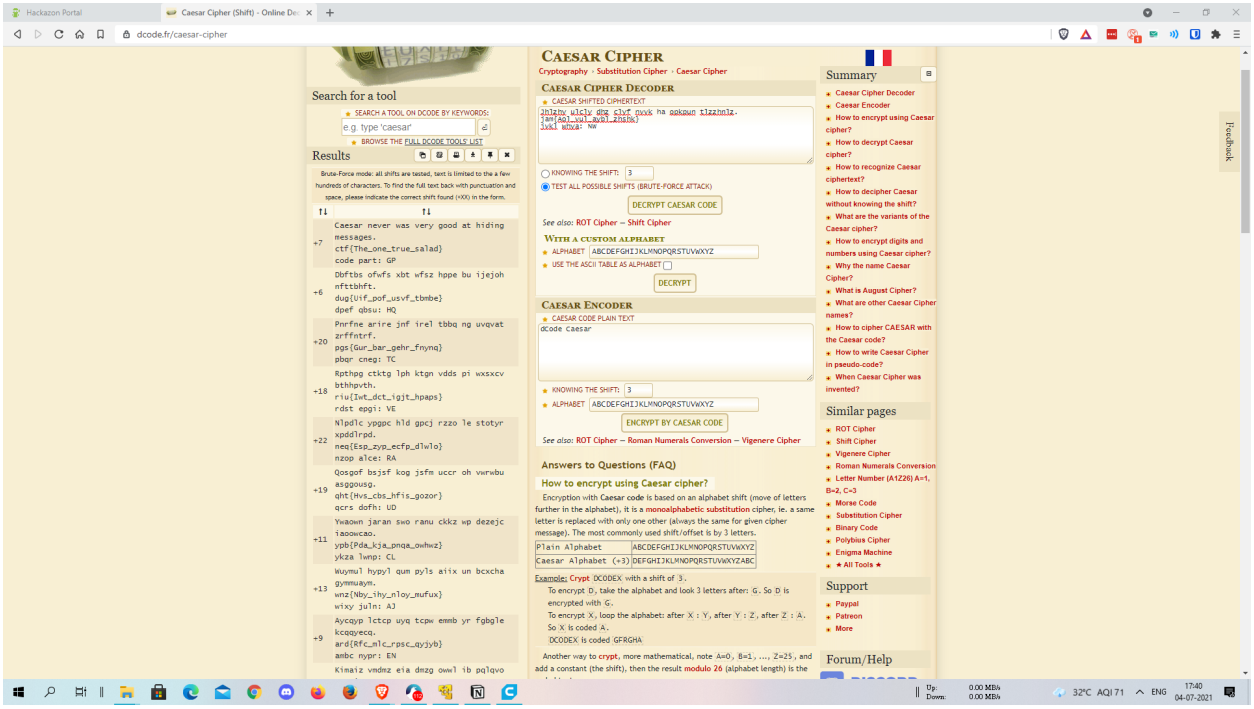
2> The roman space empire

- You find a page with a roman insignia at the top with some text what could it mean
- Message:- Jhlzhy ulcly dhz clyf nvvk ha opkpun tlzzhnlz.jam{Aol_vul_aybl_zhshk}jvkl whya: NW
- Points [25 points]



- Solution:- The description provides us a hint that says we find roman insignia which relates to caesar's cipher so decoded the message using caesar's cipher and got the flag !!
- Deciphered Message

```
Caesar never was very good at hiding messages.
ctf{The_one_true_salad}
code part: GP
```



- Flag : - ctf{The_one_true_salad}

3> The space station that rocked

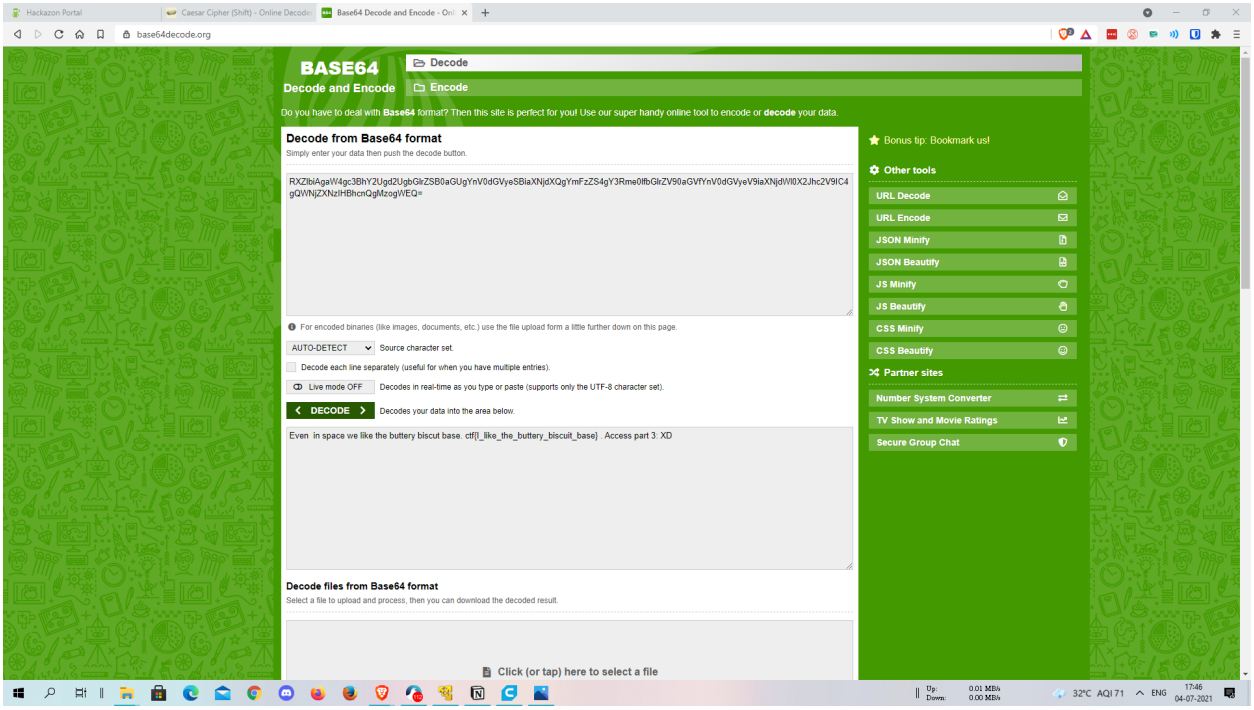
You hear the heavy baseline of 64 speakers from the next compartment. you walk in and the song changes to writing's on the wall, there is some strange code painted on the wall what could it mean?

Message :-
RXZlbiAgaW4gc3BhY2Ugd2UgbGlrZSB0aGUgYnV0dGVyeSBiaXNjdXQgYmFzZS4gY3Rme0lfbGlrZV90aGVfYnV0dGVyeV9iaXNjd\

Points [25 points]

- Solution:- The description provides us a hint that the message is encoded using base64 so just decoded it using base64 and got the Flag!!!
- Deciphered Message :-

```
Even  in space we like the buttery biscut base. ctf{I_like_the_buttery_biscuit_base} . Access part 3: XD
```



- Flag :- ctf{I_like_the_buttery_biscuit_base}

4 > What the beep is that?

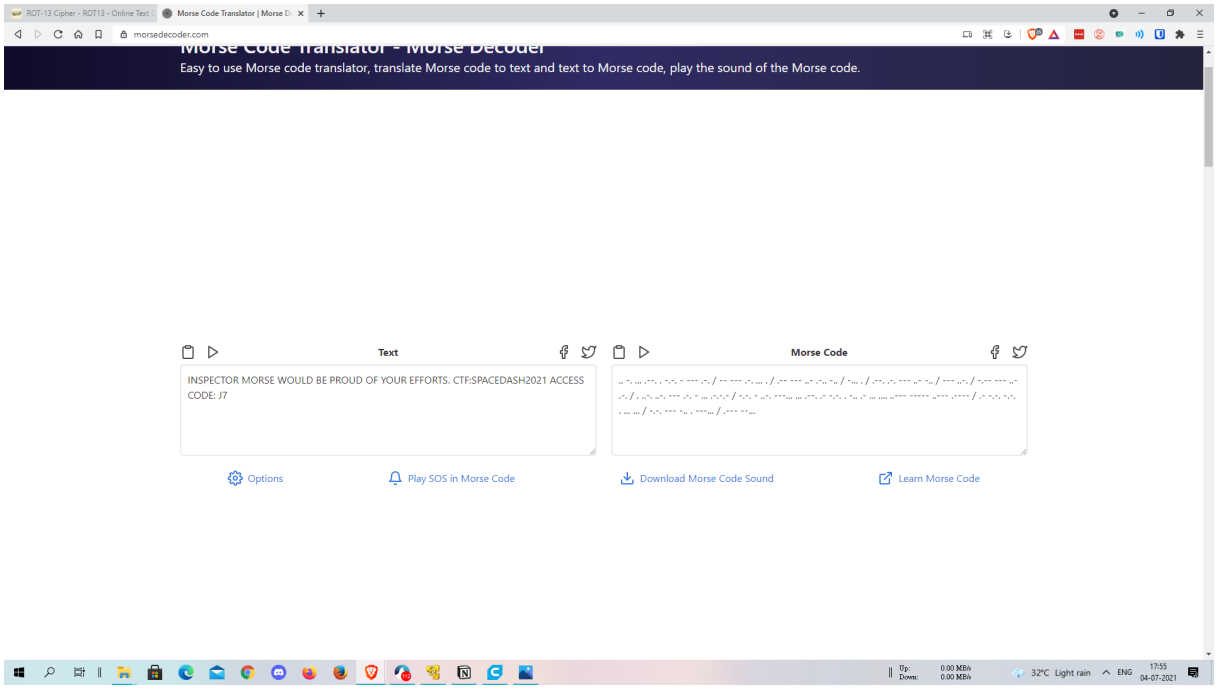
You hear beeps on the radio, maybe someone is trying to communicate? Flag Format: CTF:XXXXXX..

Message:-

.. -. ... .--. . -.-. - --- .-. / -- --- .-. ... . / .-- --- ..- .-.. -.. / -... . / .--. .-. --- ..- -.. / --- ..-. / -.-- --- ..- .-. / . ..-. ..-. --- .-. - ... .-.-.- / -.-. - ..-. ---... ... .- -. .- -.-. . -.. .- ... .--- ----- ..--- .---- / .- -.-. -.-. . ... / -.-. --- -.. . ---... / .--- --...

Points [25 points]

- The message is encoded using morse code so used a morse code decoder (Link:-https://morsedecoder.com/) and got the flag !!!



- Deciphered Message :-

```
INSPECTOR MORSE WOULD BE PROUD OF YOUR EFFORTS. CTF:SPACEDASH2021 ACCESS CODE: J7
```

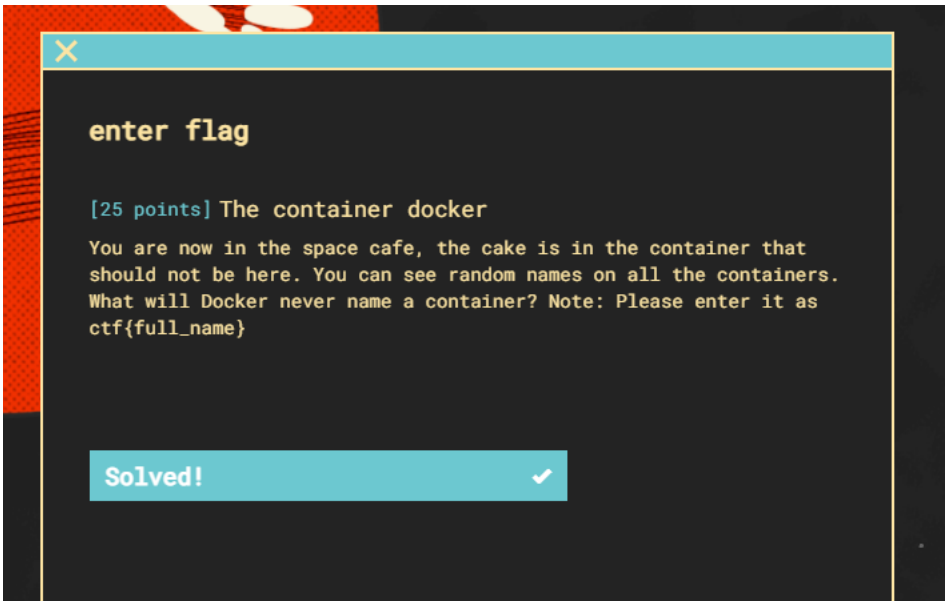
- Flag:- CTF:SPACEDASH2021

Date Change command :-sudo date -s "1 JAN 2030 11:23:45"

5> The container docker

You are now in the space cafe, the cake is in the container that should not be here. You can see random names on all the containers. What will Docker never name a container? Note: Please enter it as ctf{full_name}

Points :- [25 points]



In this challenge, we have to find out a docker container name that we can never use for docker after researching online I found how the automatic random name generator for docker works and it's code on Github in code I found out that there is where it checks if the name is equal to boring_wozniak if it is equal the tries to get another random name thus this name is not possible to be used for any docker container.

```
// GetRandomName generates a random name from the list of adjectives and surnames in this package
// formatted as "adjective_surname". For example 'focused_turing'. If retry is non-zero, a random
// integer between 0 and 10 will be added to the end of the name, e.g `focused_turing3`
func GetRandomName(retry int) string {
begin:
  name := fmt.Sprintf("%s_%s", left[rand.Intn(len(left))], right[rand.Intn(len(right))]) //nolint:gosec // G404: Use of weak random number
  if name == "boring_wozniak" /* Steve Wozniak is not boring */ {
    goto begin
  }

  if retry > 0 {
    name = fmt.Sprintf("%s%d", name, rand.Intn(10)) //nolint:gosec // G404: Use of weak random number generator (math/rand instead of crypt
  }
  return name
}
```

References :-

https://frightanic.com/computers/docker-default-container-names/

https://github.com/moby/moby/blob/master/pkg/namesgenerator/names-generator.go

Flag:- ctf{boring_wozniak}

6> There might be more cake

They ate the cake and left a note with a secret algorithm to unlock the cake treasury. We saw it happening at exactly January 1, 2030, 11:23:45 AM... are you the visionary that can figure out the PIN code? PIN code generation algorithm:

int generatePin() {

srand(time(0));

return rand();

}

Points [50 points]

In this challenge, we have to find the PIN code which would be the flag, to find this pin we are given a pin gen algorithm that uses srand (time()) function after some research I found out that this function uses a seed to generate a random number and the seed is the current system time, so in the challenge, we are also given a time at which the lock was open.

The pin gen algorithm is a C/C++ algorithm thus we have to write an appropriate program so that this pin gen can work.

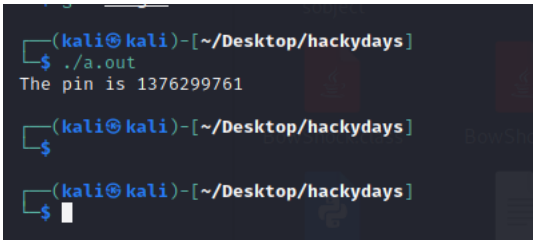
So we have to assume that this is the time which when given as the seed to pin generation algorithm will give us the required pin, first I tried to set the system time to the given and generate the pin but the pin generated was wrong so after some research found out that we can use the epoch converter time website to calculate the epoch(time elapsed in sec since Jan 1, 1970) when given this calculated epoch as a seed instead of the time function to the pin gen algorithm gives as a valid pin which is the flag.

The program in c can be used to generate the pin.

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>


int main()
{

srand(1893497025);
printf("The pin is %d",rand());
}
```



Flag➖1376299761

7> Stars in space

The treasury consists of cake hidden on stars in space.* **** * * * *** *** ** * * * **** * ** * ** *** ** *** ** * * * * *** * ** * * ** * ** * ***** **** * *** * ** * * * *

Points [30 points]

Unable to solve the challenge

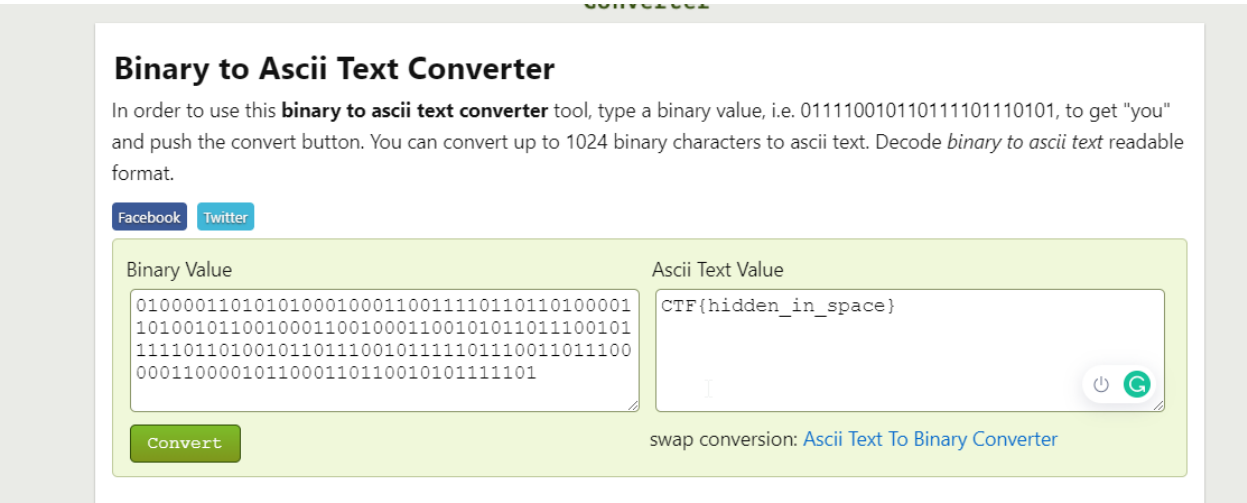
In this challenge, we are given a message consisting of only 2 characters one is an asterisk and the other is space, so whenever we are given a crypto challenge with a message having only two characters it is very much possible that they might represent binary encoding thus I tried it, on this message

to decode I found out by trial and error that all the asterisk denotes zero and all the spaces denote 1 so after replacing them with 1 & 0 I get the message in binary which then I can convert into ASCII to get the flag

The message after conversion to binary is

0100001101010100010001100111101101101000011010010110010001100100011001010110111001011111011010010110111001011

The message after conversion to ascii gives us the flag



Flag:- CTF{hidden_in_space}