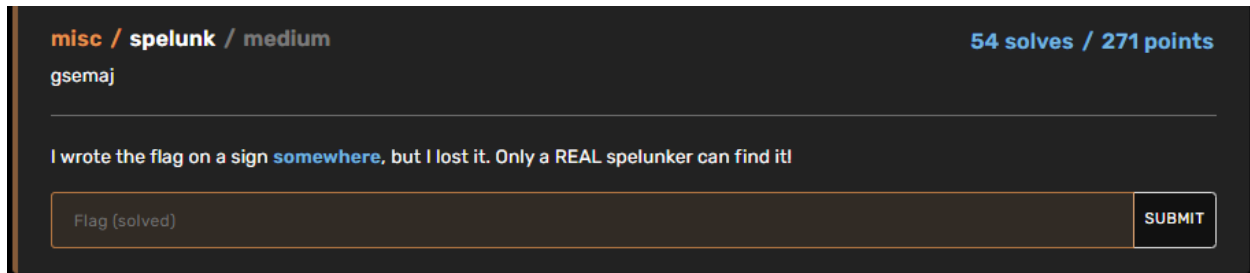


## Writeup for misc/spelunk/medium

At first, I was wondering what type of challenge this was going to be like.



I saw all the hints like “sign”, and a real spelunker.

I searched up the definition of spelunker

**spelunker** • \spi-LUNK-er\ • noun. : one who makes a hobby of exploring and studying caves.

I saw that we had a zip file to download in the challenge window so I downloaded it. And found I couldn't exactly unzip it in kali linux. So I decided to do a binwalk.

```
(kali@kali)-[~/BuckeyeCTF2022/misc/spelunk]
$ ls
spelunk.zip  _spelunk.zip.extracted
(kali@kali)-[~/BuckeyeCTF2022/misc/spelunk]
$ binwalk -e spelunk.zip
```

DECIMAL	HEXADECIMAL	DESCRIPTION
0	0x0	Zip archive data, at least v1.0 to extract, name: world/
64	0x40	Zip archive data, at least v1.0 to extract, name: world/advancements/
141	0x8D	Zip archive data, at least v1.0 to extract, name: world/data/
210	0xD2	Zip archive data, at least v2.0 to extract, compressed size: 57, uncompressed size: 59, name: world/data/chunks.dat
346	0x15A	Zip archive data, at least v1.0 to extract, compressed size: 90, uncompressed size: 90, name: world/data/raids.dat
514	0x202	Zip archive data, at least v1.0 to extract, name: world/datapacks/
588	0x24C	Zip archive data, at least v1.0 to extract, name: world/DIM-1/

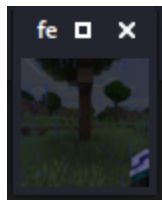
This ended up getting the files and putting them into a new directory.

```
(kali@kali)-[~/BuckeyeCTF2022/misc/spelunk]
$ ls
spelunk.zip  _spelunk.zip-0.extracted  _spelunk.zip.extracted
(kali@kali)-[~/BuckeyeCTF2022/misc/spelunk]
$ cd _spelunk.zip.extracted
(kali@kali)-[~/BuckeyeCTF2022/misc/spelunk/_spelunk.zip.extracted]
$
```

When going inside the unzipped directory I found a weird name called world. When I entered this directory I found various other weird names.

```
(kali㉿kali)-[~/../misc/spelunk/_spelunk.zip.extracted/world]
$ ls
advancements  datapacks  DIM-1  level.dat  playerdata  region  stats
data          DIM-1     icon.png  level.dat_old  poi  session.lock
```

I did not know what these meant but I saw that there was an icon.png so I decided to open it with feh



It opened small, so I had to zoom in



After zooming in I noticed that this was Minecraft.

So I was thinking maybe I need to play this world or it has the “sign” in this image.

But after a while I gave up on those ideas and went to look at the other directories. I decided to check what was in the region directory.

```
(kali㉿kali)-[~/misc/spelunk/_spelunk.zip.extracted/world]
$ cd region

(kali㉿kali)-[~/misc/spelunk/_spelunk.zip.extracted/world/region]
$ ls
r.0.0.mca  r.-1.1.mca  r.1.-4.mca  r.2.2.mca  r.-3.-1.mca  r.-3.4.mca  r.4.-2.mca  r.-5.-1.mca
r.0.-1.mca  r.1.-1.mca  r.1.4.mca  r.-2.-3.mca  r.-3.1.mca  r.3.-4.mca  r.4.2.mca  r.-5.1.mca
r.0.1.mca  r.1.1.mca  r.-1.-5.mca  r.-2.3.mca  r.3.-1.mca  r.3.4.mca  r.-4.-3.mca  r.-5.-2.mca
r.0.-2.mca  r.-1.-2.mca  r.1.-5.mca  r.2.-3.mca  r.3.1.mca  r.-3.-5.mca  r.-4.3.mca  r.-5.2.mca
r.0.2.mca  r.-1.2.mca  r.-2.0.mca  r.2.3.mca  r.-3.-2.mca  r.3.-5.mca  r.4.-3.mca  r.-5.-3.mca
r.0.-3.mca  r.1.-2.mca  r.2.0.mca  r.-2.-4.mca  r.-3.2.mca  r.-4.0.mca  r.4.3.mca  r.-5.3.mca
r.0.3.mca  r.1.2.mca  r.-2.-1.mca  r.-2.4.mca  r.3.-2.mca  r.4.0.mca  r.-4.-4.mca  r.-5.-4.mca
r.0.-4.mca  r.-1.-3.mca  r.-2.1.mca  r.2.-4.mca  r.3.2.mca  r.-4.-1.mca  r.-4.4.mca  r.-5.-4.mca
r.0.4.mca  r.-1.3.mca  r.2.-1.mca  r.2.4.mca  r.-3.-3.mca  r.-4.1.mca  r.4.-4.mca  r.-5.-5.mca
r.0.-5.mca  r.1.-3.mca  r.2.1.mca  r.-2.-5.mca  r.-3.3.mca  r.4.-1.mca  r.4.4.mca
r.-1.0.mca  r.1.3.mca  r.-2.-2.mca  r.2.-5.mca  r.3.-3.mca  r.4.1.mca  r.-4.-5.mca
r.1.0.mca  r.-1.-4.mca  r.-2.2.mca  r.-3.0.mca  r.3.3.mca  r.-4.-2.mca  r.4.-5.mca
r.-1.-1.mca  r.-1.4.mca  r.2.-2.mca  r.3.0.mca  r.-3.-4.mca  r.-4.2.mca  r.-5.0.mca


(kali㉿kali)-[~/misc/spelunk/_spelunk.zip.extracted/world/region]
$
```

I had never seen .mca before so I decided to check what type of file it was

# .MCA

## File Extension

Jump To: [File Information](#) [How to Open](#)



### Minecraft Anvil Region

Developer [Mojang](#)

Popularity ★★★★★ 4.4 | 129 Votes

Category [Game Files](#)

Format [Binary](#)

#### What is an MCA file?

An MCA file is a region of a Minecraft world. It contains a portion of the world's terrain chunks, which must be combined with other MCA files to comprise a world. The MCA format replaced Minecraft's previous [.MCR](#) region format.

#### More Information

Minecraft is a popular open-world exploration and construction game. The game's Java Edition allows players to examine, modify, and replace game files, including MCA files.

[.MCA9](#) | [.MCADDON](#)

I found out that it stores the chunks of Minecraft worlds so the blocks or any types of entities are stored there. I was wondering how I could access these types of files.

## How to open an MCA file

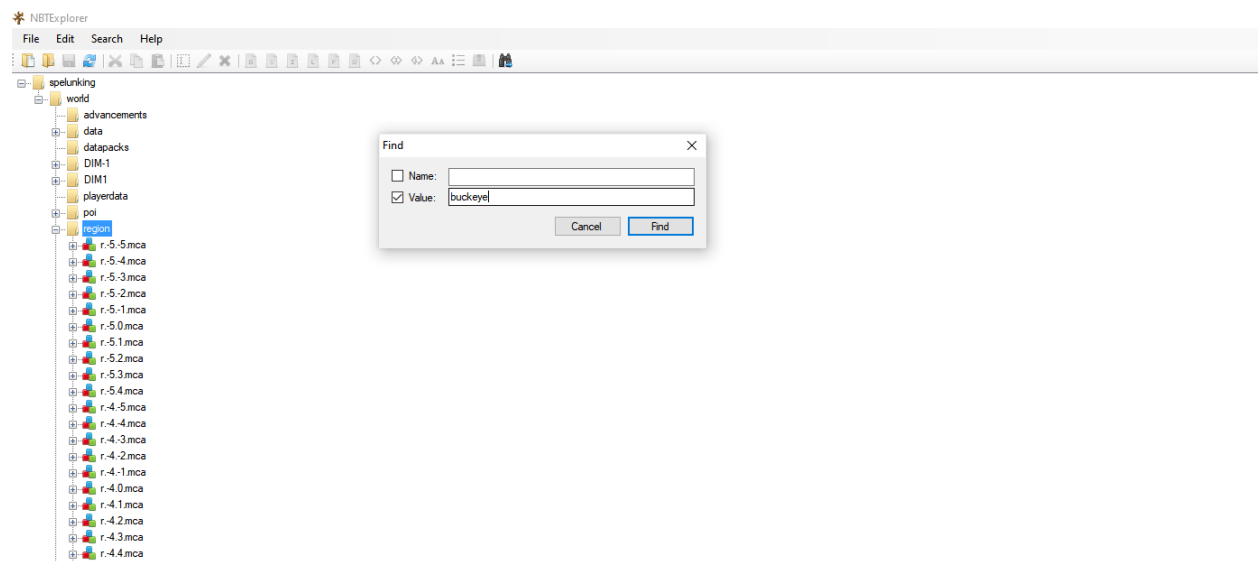
To use an MCA file as a Minecraft region, place the file in an appropriate **region** sub-directory. Most likely, you will want to place a group of related MCA files in a **region** sub-directory at the same time, to use them as a world's Overworld, Nether, or End. Note that MCA files created for newer versions of Minecraft may not work in older versions of Minecraft, and vice-versa.

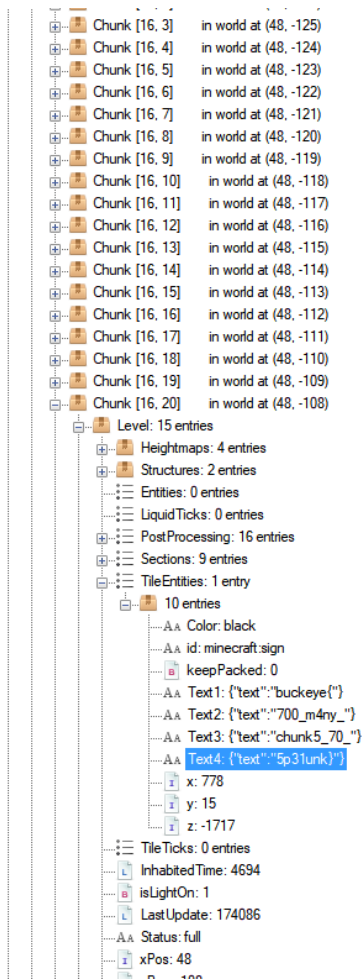
You can also open an MCA file in NBTEditor (multiplatform), to view the region data it contains.

So I had to download NBTEditor, I tried downloading it for Kali Linux but It never worked so I just took the files I had extracted before and put them In my windows machine and downloaded NBTEditor for windows.

After downloading NBTEditor I added the files and started checking them one by one to see if I could find the flag (Not my brightest idea)

Then I saw that NBTEditor had a search option which I then I filled in "buckeye" as a value and after checking all the directories it eventually found it.





Boom flag found buckeye{700\_m4ny\_chunk5\_70\_5p31unk}