

## RACTF2020 Writeup – Cut Short

This image refuses to open in anything, which is a bit odd. Open it for the flag!

200 Points

This challenge came with a PNG file that could not be opened. I used ghex to have a look at the magic bytes to see if there was anything untoward:

```
flag.png - GHex
File Edit View Windows Help
00000000 89 50 4E 47 0D 0A 1A 0A 00 00 00 00 49 45 4E 44 AE 42 60 82 00 00 .PNG.....IEND.B`...
00000016 00 0D 49 48 44 52 00 00 01 5E 00 00 00 96 08 06 00 00 00 96 E7 E0 ..IHDR...^.....
```

Straight away, I found IEND near the beginning of the file, which means the file is terminated too early. To fix this I removed all data from offset 0xC up to 0x16, and changed offset 0xB from 00 to 0D. The result is as follows:

```
flag.png - GHex
File Edit View Windows Help
00000000 89 50 4E 47 0D 0A 1A 0A 00 00 00 0D 49 48 44 52 00 00 01 .PNG.....IHDR...
00000013 5E 00 00 00 96 08 06 00 00 00 96 E7 E0 77 00 00 20 00 49 ^.....w... .I
00000026 44 41 54 78 9C ED 9D 09 D4 B5 D5 F8 C6 77 E6 79 9E 93 10 DATx.....w.y...
```

Now the file can be opened, revealing the flag:

