

CHALLENGE

My friend always messes with PNGs.... what did he do this time?

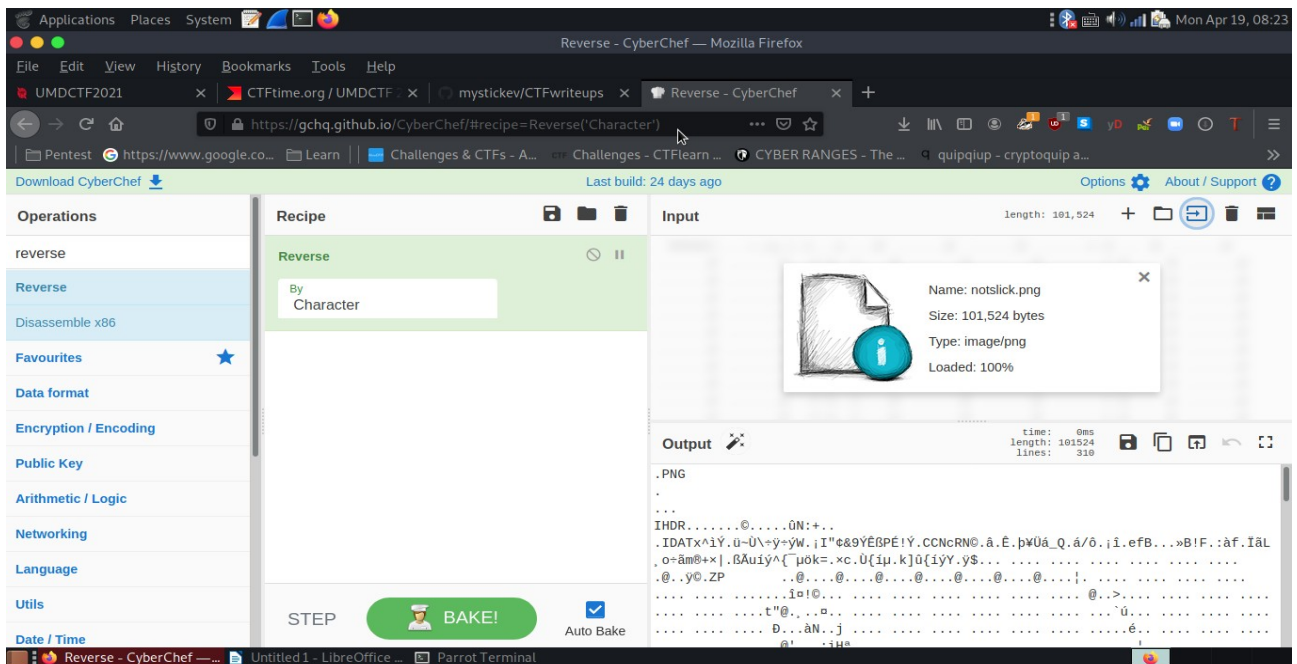
Attached is a png file which when opened displays an error that the image format is all wrong. To investigate the image, I checked the image for strings and then went on to view the image hex.

```
00000000: 8260 42ae 44ae 4549 0000 0000 2b2c edb5  .`B.DNEI....+,...
00000010: 894c 10f3 0f7f 02fd 0201 0080 4020 1008  .L.....@ ..
00000020: 0402 0100 8040 2010 0804 0201 0080 4020  ....@ .....@
00000030: 1008 0402 0100 8274 1944 b800 8084 a040  ....t.D....@
00000040: 2010 0804 0201 0080 4020 1008 0402 0100  ....@ .....@
00000050: 8040 2010 0804 0201 0080 4020 102d 437e  .@ .....@ .-C~
00000060: e002 02fd 0201 0080 4020 1008 0402 0100  ....@ .....@
00000070: 8040 2010 0804 0201 0080 4020 1008 0402  ....@ .....@
00000080: 0100 8274 1944 b800 8084 a040 2010 0804  ....t.D....@ ..
00000090: 0201 0080 4020 1008 0402 0100 8040 2010  ....@ .....@ .
000000a0: 0804 0201 0080 4020 102d 437e e002 02fd  ....@ .-C~....
000000b0: 0201 0080 4020 1008 0402 0100 8040 2010  ....@ .....@ .
000000c0: 0804 0201 0080 4020 1008 0402 0100 8274  ....@ .....t
000000d0: 1944 b800 8084 a040 2010 0804 0201 0080  .D.....@ .....
000000e0: 4020 1008 0402 0100 8040 2010 0804 0201  @ .....@ .....
000000f0: 0080 4020 102d 437e e002 02fd 0201 0080  ..@ .-C~.....
00000100: 4020 1008 0402 0100 8040 2010 0804 0201  @ .....@ .....
00000110: 0080 4020 1008 0402 0100 8274 1944 b800  ..@ .....t.D..
00000120: 8084 a040 2010 0804 0201 0080 4020 1008  ...@ .....@ ..
00000130: 0402 0100 8040 2010 0804 0201 0080 4020  ....@ .....@
00000140: 102d 437e e002 02fd 0201 0080 4020 1008  .-C~.....@ ..
00000150: 0402 0100 8040 2010 0804 0201 0080 4020  ....@ .....@
00000160: 1008 0402 0100 8274 1944 b800 8084 a040  ....t.D....@
00000170: 2010 0804 0201 0080 4020 1008 0402 0100  ....@ .....
00000180: 8040 2010 0804 0201 0080 4020 102d 437e  .@ .....@ .-C~
00000190: e002 02fd 0201 0080 4020 1008 0402 0100  ....@ .....
00018ae0: 0100 89d0 2008 0200 8020 0802 0080 2008  . . . . . . . . . .
00018af0: 0200 8020 0802 0080 2008 0200 8020 0802  . . . . . . . . . .
00018b00: 0080 2008 0200 fa60 0100 8020 0802 0080  . . . . . . . . . .
00018b10: 2008 0200 8020 0802 0080 2008 0200 8020  . . . . . . . . . .
00018b20: 0802 0080 2008 0200 8020 081a a486 93b8  . . . . . . . . . .
00018b30: 0040 2274 0802 0080 2008 0200 8020 0802  .@"t. . . . . . .
00018b40: 0080 2008 0200 8020 0802 0080 2008 0200  . . . . . . . . . .
00018b50: 8020 0802 0080 3e98 0040 2008 0200 8020  . . . . .>..@ . . .
00018b60: 0802 0080 2008 0200 8020 0802 0080 2008  . . . . . . . . . .
00018b70: 0200 8020 0802 0080 2008 0206 a921 a4ee  . . . . . . . . . .
00018b80: 0010 089d 0200 8020 0802 0080 2008 0200  . . . . . . . . . .
00018b90: 8020 0802 0080 2008 0200 8020 0802 0080  . . . . . . . . . .
00018ba0: 2008 0200 8020 13a6 0011 0100 4010 0401  . . . . . . . . . .
00018bb0: 0040 1004 0100 4010 0401 0040 1004 0100  .@.....@.....
00018bc0: 4010 0401 0040 1004 0100 4010 0409 505a  @.....@.....@...PZ
00018bd0: 8ba9 ff02 1740 8020 0802 0080 2008 0200  ....@ .....
00018be0: 8020 0802 0080 2008 0200 8020 0802 0080  . . . . . . . . . .
00018bf0: 2008 0200 8020 0802 1224 ff87 59fd ed7b  . . . . .$.Y..{
00018c00: fb5d 6b9e b5ed 7bd9 8663 d71e 3d6b f6b5  .]k...{...c..=k..
00018c10: af7b 5efd ed75 c3df 7f7c d72b ae6d e3f7  .{^...u...|.+.m..
00018c20: 6fb8 4ce3 cf9c 66e0 3a7f 4621 42bb 8687  o.L...f...F!B...
00018c30: 1a42 6665 10ee a10f f42f e10e 515f e1dc  .Bfe...../...Q...
00018c40: a5fe 10ca 1fe2 89a9 4e52 634e 4343 93dd  . . . . .NRcNCC...
00018c50: 21c9 50df cadd 3926 a222 49a1 0e57 fdf7  !.P...9&."I...W..
00018c60: fff7 5cd9 7efc 0bdd ec5e 7854 4144 4900  .\.-.....^xTADI.
00018c70: 2000 002b 3a4e fb00 0000 0608 a903 0000  . . . . .+;N.....
00018c80: 8007 0000 5244 4849 0d00 0000 0a1a 0a0d  ....RDHI.....
00018c90: 474e 5089  . . . . .GNP.
```

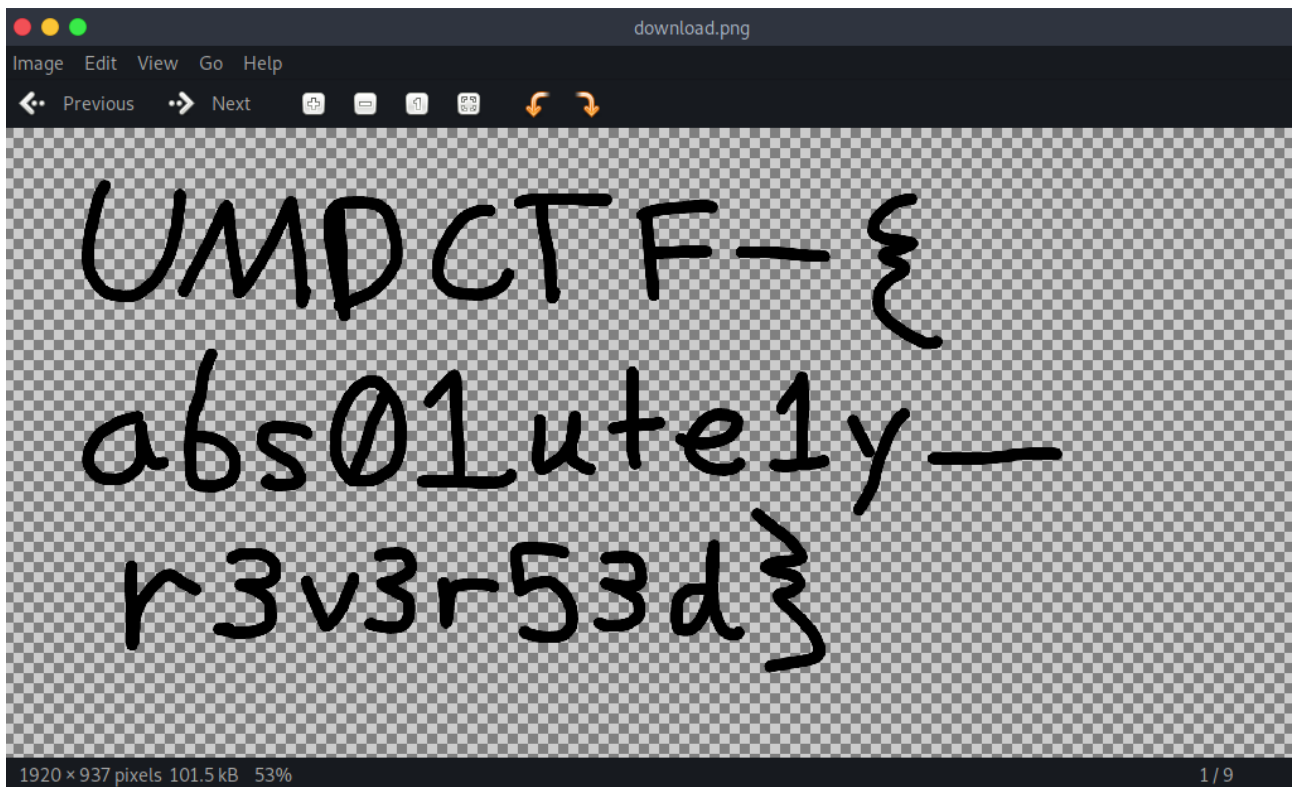
Looking at the hex, you can tell that the image is a PNG whose raw data has been reversed. Notice the IHDR, IDAT and IEND headers that are reversed.

Using the reverse tool at

[https://gchq.github.io/CyberChef/#recipe=Reverse\('Character'\)](https://gchq.github.io/CyberChef/#recipe=Reverse('Character')), I reversed the image content to get a valid png



viewing the image, the flag was well displayed



Flag is UMDCTF-{abs01ute1y_r3v3r53d}