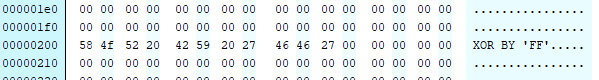
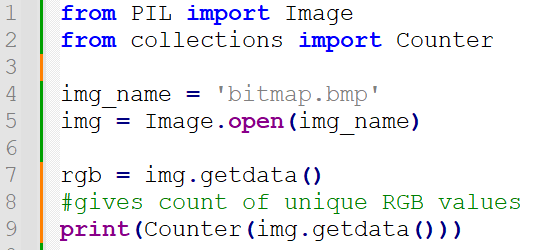
Bitmap writeup

Some of these squares are not like the others.

I first opened the bitmap.bmp with a hex editor and notes the phrase **XOR BY ‘FF’**, so bear that in mind for later:



Next, use Python’s PIL library and Counter to analyse the pixels in the bitmap:



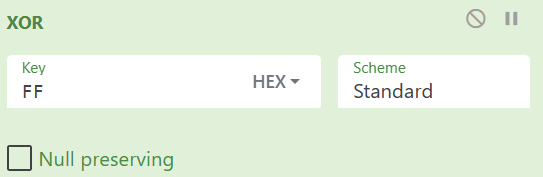
This showed lots of pixels with R=G=B such as (159,159,159) in large numbers, but interestingly also found a number of pixels which were unique and didn’t follow this pattern. I focused on the unique pixels and extracted the pixels where R,G,B weren’t the same. I then converted these to hex with:

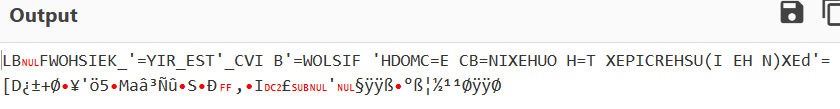


…and got the following:

b3bdffb9a8b0b7acb6bab4a0d8c2a6b6ada0baacabd8a0bca9b6dfbdd8c2a8b0b3acb6b9dfd8b7bbb0b2bcc2badfbcbdc2b1b6a7bab7aab0dfb7c2abdfa7baafb6bcadbab7acaad7b6dfbab7dfb1d6a7ba9bd8c2f5a4bb404ed427655ad809ca63b29e1d4c2e047bac522ff3d368b6ed5ce5ffd8ff58000020524f205942464627000027

At this point I tried the XOR by ‘FF’ hint found earlier using CyberChef:





This gave me something, I was on the right track, but didn’t quite make sense, and stumped me for ages, the letters weren’t quite in the right order. But then finally B’=WOLSIF made me think of ‘blowfish’

bdd8c2 a8b0b3 acb6b9 when XORed is: B'=WOLSIF

bdd8c2 a8b0b3 b9b6ac when XORed is B'=WOLFIS, so cb6b9 should be b9b6ac, basically each pixel when converted to hex then also needed converting from *little endian* to *big endian*.

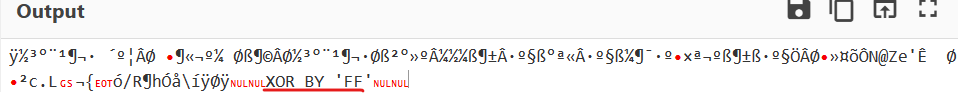
I cheated a bit here, and instead just swapped (r, g, b) with (b, g, r) in rgb\_to\_hex:



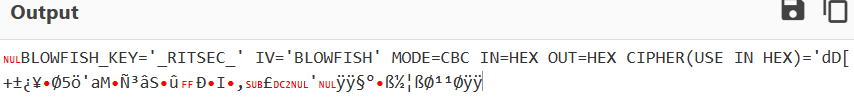
Which gives:

ffbdb3b0a8b9b6acb7a0b4baa6c2d8a0adb6abacbabca0d8dfb6a9c2d8bdb3b0a8b9b6acb7d8dfb2b0bbbac2bcbdbcdfb6b1c2b7baa7dfb0aaabc2b7baa7dfbcb6afb7baadd7aaacbadfb6b1dfb7baa7d6c2d89bbba4f5d44e405a6527ca09d89eb2632e4c1dac7b04f32f52b668d3e55cedffd8ff0000584f5220425920274646270000

and in CyberChef now get:



which is another hint that we need to Xor by FF, which gives:



This now gives us the info we need to Xor and decrypt the non-ASCII values between the two quotes starting *dD[:*

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