

Homework 4 Report

資科工所312551065何勁廷

Environment

Programming Environment:

Python 3.11.3

numpy 1.23.5

opencv-contrib-python 4.7.0.72

Execution Command:

python3 main.py

Experiments Results

The file size comparison

I saved the encoded results as a png format, and show the file size of original lena.png and encoded file.

```
File size of encoded file: 140348 bytes
File size of original lena.png: 167460 bytes
```

The PSNR of reconstructed image

Because we "quantize the coefficients with 16-bit for DC and 8-bit for AC", the reconstructed image would loss some information and detail, and the PSNR would not be very large. The PSNR result is below:

```
PSNR of lena.png and reconstructed img: 37.886
```

Visualization of image

Original lena.png



Reconstructed image

