Guillem Maled Ros
19/10/22
Sistemes de codificació: Video

P1: JPEG

2) Use ffmpeg to resize images into lower quality.

Original image: Size 512x512

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```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna.png -vf scale=iw/2:ih/2 lenna_2.png
```

Size : 256x256	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_2.png -vf scale=iw/2:ih/2 lenna_4.png
```

Size: 128x128	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_4.png -vf scale=iw/2:ih/2 lenna_8.png
```

Size: 64x64	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_8.png -vf scale=iw/2:ih/2 lenna_16.png
```

Size: 32x32	

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```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_16.png -vf scale=iw/2:ih/2 lenna_32.png
```

Size: 16:16	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_32.png -vf scale=iw/2:ih/2 lenna_64.png
```

Size: 8x8	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_64.png -vf scale=iw/2:ih/2 lenna_128.png
```

Size: 4x4	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_128.png -vf scale=iw/2:ih/2 lenna_256.png
```

Size: 2x2	

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_256.png -vf scale=iw/2:ih/2 lenna_512.png
```

Size: 1x1	

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3) Use FFMPEG to transform the Lenna image into b/w. Do the hardest compression you can and comment the results.

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna.png -vf format=gray lenna_bw.png
```

```
guill@LAPTOP-ET9GEH8N:/mnt/c/Users/guill/Desktop/uni/4t/Sistemes de codificacio/Video$
ffmpeg -i lenna_bw.png -compression_level 100 lenna_bw_compressed.png
```

I found a lot of different ways to perform black and white transformations to the image. Finally I decided to do it with the format parameter. Then as the statement said I tried to compress it

as much as possible but for my surprise I found that the final image couldn’t be more compressed. Just to stay curious I also tried to compress the original image to watch how it would work but again I found that that maximum compression level not only didn’t compress but it performed the other way round as expected: the compressed image was less compressed than the original!