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**Carrera: Telemática**

**Materia: Multimedia**

**Grupo: 3TM2**

**Practica 1: Procesamiento de imágenes**

**Fecha: 08/02/2026**

```
#Binary filter: Black and White

file = open('./images/example001.bmp','rb')
fileo = open('./images/example001bin.bmp','wb')

metadata = file.read(54)
fileo.write(metadata)

blanco = [0xff,0xff,0xff]
negro = [0x00,0x00,0x00]

file.seek(54,0)

no_pix = 0
limite = (pow(2, 24)-1)/2

while(True):
    pixel_data = file.read(3)
    if(len(pixel_data) > 0):
        valor_int = int.from_bytes(bytes(pixel_data),byteorder='little')
        if(valor_int<limite):
            fileo.write(bytes(blanco))
        else:
            fileo.write(bytes(negro))
        no_pix += 1
    else:
        break

print('No Pixels: '+str(no_pix))

file.close()
fileo.close()
```

The screenshot shows a terminal window with a light gray background. On the left, there is a vertical toolbar with a downward arrow icon and the text "1s". To its right is a code editor area containing Python code. The code is as follows:

```
[10] 1s
    no_pix += 1
else:
    break
print('No Pixels: '+str(no_pix))
file.close()
fileo.close()

...
No Pixels: 256
```

On the far right of the terminal window, there is a file browser interface. It shows a file named "example001bin.bmp" with a small thumbnail preview below it. Above the file name are several icons: an upward arrow, a downward arrow, a pencil, a trash can, and a three-dot menu.

Fig1. Ejemplo que demuestra la lectura de archivos BMP