

## P1-JPEG:

### Exercici 2:

Creem carpeta la Lab1 que és on realitzarem les accions:

```

roger@LAPTOP-ULVA9RBV:/mnt/c$ mkdir Lab1
roger@LAPTOP-ULVA9RBV:/mnt/c$ ls
ls: cannot access 'DumpStack.log.tmp': Permission denied
ls: cannot access 'hiberfil.sys': Permission denied
ls: cannot access 'pagefile.sys': Permission denied
ls: cannot access 'swapfile.sys': Permission denied
$WINDIR\system32\Config.Msi          .sh Windows
$WINDIR\..$Recycle.Bin\Documents and Settings' .exe hiberfil.sys
$WINDIR\Agent\DumpStack.log.tmp     .exe pagefile.sys
Archivos de programa' .exe 'Program Files' 'System Volume Information'
'Program Files (x86)' Users swapfile.sys
roger@LAPTOP-ULVA9RBV:/mnt/c$ ls
ls: cannot access 'DumpStack.log.tmp': Permission denied
ls: cannot access 'hiberfil.sys': Permission denied
ls: cannot access 'pagefile.sys': Permission denied
ls: cannot access 'swapfile.sys': Permission denied
$WINDIR\system32\Config.Msi          .sh Windows
$WINDIR\..$Recycle.Bin\Documents and Settings' .exe hiberfil.sys
$WINDIR\Agent\DumpStack.log.tmp     .exe pagefile.sys
Archivos de programa' .exe 'Program Files' 'System Volume Information'
'Program Files (x86)' Users swapfile.sys
roger@LAPTOP-ULVA9RBV:/mnt/c$ cd Lab1
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$ ls
Lenna.png
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$ ffmpeg
ffmpeg version 4.4.2-0ubuntu0.22.04.1 Copyright (c) 2000-2021 the FFMpeg developers
built with gcc 11 (Ubuntu 11.2.0-19ubuntu1)
configuration: --prefix=/usr --extra-version=0ubuntu0.22.04.1 --toolchain=hardened --libdir=/usr/lib/x86_64-linux-gnu --incdir=/usr/include
le-gnutls --enable-ladspa --enable-libaom --enable-libbass --enable-libbluray --enable-libbs2b --enable-libcaca --enable-libcdio --enable-libc
ble-libfreetype --enable-libfribidi --enable-libgme --enable-libgsm --enable-libjack --enable-libmp3lame --enable-libmusepack --enable-libopenj
brabbitmq --enable-librubberband --enable-libshine --enable-lisnappy --enable-libsoxr --enable-libspeex --enable-lisrt --enable-libssh --en
bis --enable-libvpx --enable-libwebp --enable-libx265 --enable-libx264 --enable-libx265 --enable-libx265 --enable-libx265 --enable-libx265 --en
--enable-sdl2 --enable-pocketsphinx --enable-libsvg --enable-libvpx --enable-libx264 --enable-libx265 --enable-libx265 --enable-libx265 --en
libavutil 56. 70.100 / 56. 70.100
libavcodec 58.134.100 / 58.134.100
libavformat 58. 76.100 / 58. 76.100
libavdevice 58.13.100 / 58.13.100
libavfilter 7.110.100 / 7.110.100

```

Apliquem el resize 320x240 :

[illegible]

## Apliquem el resize 100x100 i 500x100:

```
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$ ffmpeg -i Lenna.png -vf scale=100:100 100x100.png
ffmpeg version 4.4.2-0ubuntu0.22.04.1 Copyright (c) 2000-2021 the FFmpeg developers
  built with gcc 11 (Ubuntu 11.2.0-19ubuntu1)
  configuration: --prefix=/usr --extra-version=0ubuntu0.22.04.1 --toolchain=hardened --libdir=/usr/lib/x86_64-linux-gnu --incdir=/usr/include/x86_64-linux-
  le-gnutls --enable-ladspa --enable-libaom --enable-libass --enable-libbluray --enable-libs2b --enable-libcaca --enable-libcdio --enable-libcodec2 --enable-
  ble-libfreetype --enable-libfribidi --enable-libgme --enable-libgsm --enable-libjack --enable-libmp3lame --enable-libmysofa --enable-libopenjpeg --enable-l
  orabbitmq --enable-librubberband --enable-libshine --enable-lsnaappy --enable-libsoxr --enable-lspspeex --enable-lisrt --enable-lisssh --enable-libtheora
  bis --enable-libvpx --enable-libwebp --enable-libx265 --enable-libxml2 --enable-libxvid --enable-libzimg --enable-libzmq --enable-libzvbi --enable-lv2 --er
  --enable-sdl2 --enable-pocketsphinx --enable-librsvg --enable-libmfx --enable-libdc1394 --enable-libdrm --enable-libiec61883 --enable-chromaprint --enable-
  libavutil      56. 70.100 / 56. 70.100
  libavcodec     58.134.100 / 58.134.100
  libavformat    58. 76.100 / 58. 76.100
  libavdevice    58. 13.100 / 58. 13.100
  libavfilter    7.110.100 / 7.110.100
  libswscale     5.  9.100 / 5.  9.100
  libswresample  3.  9.100 / 3.  9.100
  libpostproc   55.  9.100 / 55.  9.100
Input #0, png_pipe, from 'Lenna.png':
  Duration: N/A, bitrate: N/A
  Stream #0:0: Video: png, rgb24(pc), 512x512, 25 fps, 25 tbr, 25 tbn, 25 tbc
Stream mapping:
  Stream #0:0 -> #0:0 (png (native) -> png (native))
Press [q] to stop, [?] for help
Output #0, image2, to '100x100.png':
  Metadata:
    encoder      : Lavf58.76.100
  Stream #0:0: Video: png, rgb24(pc, gbr/unknown/unknown, progressive), 100x100, q=2-31, 200 kb/s, 25 fps, 25 tbn
  Metadata:
    encoder      : Lavc58.134.100 png
frame=      1 fps=0.0 q=0.0 lsize=N/A time=00:00:00.04 bitrate=N/A speed=1.54x
video:28kB audio:0kB subtitle:0kB other streams:0kB global headers:0kB muxing overhead: unknown
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$ ffmpeg -i Lenna.png -vf scale=500:100 500x100.png
ffmpeg version 4.4.2-0ubuntu0.22.04.1 Copyright (c) 2000-2021 the FFmpeg developers
  built with gcc 11 (Ubuntu 11.2.0-19ubuntu1)
  configuration: --prefix=/usr --extra-version=0ubuntu0.22.04.1 --toolchain=hardened --libdir=/usr/lib/x86_64-linux-gnu --incdir=/usr/include/x86_64-linux-
  le-gnutls --enable-ladspa --enable-libaom --enable-libass --enable-libbluray --enable-libs2b --enable-libcaca --enable-libcdio --enable-libcodec2 --enable-
  ble-libfreetype --enable-libfribidi --enable-libgme --enable-libgsm --enable-libjack --enable-libmp3lame --enable-libmysofa --enable-libopenjpeg --enable-l
  orabbitmq --enable-librubberband --enable-libshine --enable-lsnaappy --enable-libsoxr --enable-lspspeex --enable-lisrt --enable-lisssh --enable-libtheora
  bis --enable-libvpx --enable-libwebp --enable-libx265 --enable-libxml2 --enable-libxvid --enable-libzimg --enable-libzmq --enable-libzvbi --enable-lv2 --er
  --enable-sdl2 --enable-pocketsphinx --enable-librsvg --enable-libmfx --enable-libdc1394 --enable-libdrm --enable-libiec61883 --enable-chromaprint --enable-
  libavutil      56. 70.100 / 56. 70.100
  libavcodec     58.134.100 / 58.134.100
  libavformat    58. 76.100 / 58. 76.100
  libavdevice    58. 13.100 / 58. 13.100
  libavfilter    7.110.100 / 7.110.100
  libswscale     5.  9.100 / 5.  9.100
  libswresample  3.  9.100 / 3.  9.100
  libpostproc   55.  9.100 / 55.  9.100
Input #0, png_pipe, from 'Lenna.png':
  Duration: N/A, bitrate: N/A
  Stream #0:0: Video: png, rgb24(pc), 512x512, 25 fps, 25 tbr, 25 tbn, 25 tbc
Stream mapping:
  Stream #0:0 -> #0:0 (png (native) -> png (native))
Press [q] to stop, [?] for help
Output #0, image2, to '500x100.png':
  Metadata:
    encoder      : Lavf58.76.100
  Stream #0:0: Video: png, rgb24(pc, gbr/unknown/unknown, progressive), 500x100, q=2-31, 200 kb/s, 25 fps, 25 tbn
  Metadata:
    encoder      : Lavc58.134.100 png
frame=      1 fps=0.0 q=0.0 lsize=N/A time=00:00:00.04 bitrate=N/A speed=1.44x
video:134kB audio:0kB subtitle:0kB other streams:0kB global headers:0kB muxing overhead: unknown
```

## Apliquem el resize 500x100:

```
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$ ffmpeg -i Lenna.png -vf scale=500:100 500x100.png
ffmpeg version 4.4.2-0ubuntu0.22.04.1 Copyright (c) 2000-2021 the FFmpeg developers
  built with gcc 11 (Ubuntu 11.2.0-19ubuntu1)
  configuration: --prefix=/usr --extra-version=0ubuntu0.22.04.1 --toolchain=hardened --libdir=/usr/lib/x86_64-linux-
  le-gnutls --enable-ladspa --enable-libaom --enable-libass --enable-libbluray --enable-libs2b --enable-libcaca --ena
  ble-libfreetype --enable-libfribidi --enable-libgme --enable-libgsm --enable-libjack --enable-libmp3lame --enable-li
  orabbitmq --enable-librubberband --enable-libshine --enable-lsnaappy --enable-libsoxr --enable-lspspeex --enable-li
  bis --enable-libvpx --enable-libwebp --enable-libx265 --enable-libxml2 --enable-libxvid --enable-libzimg --enable-li
  --enable-sdl2 --enable-pocketsphinx --enable-librsvg --enable-libmfx --enable-libdc1394 --enable-libdrm --enable-li
  libavutil      56. 70.100 / 56. 70.100
  libavcodec     58.134.100 / 58.134.100
  libavformat    58. 76.100 / 58. 76.100
  libavdevice    58. 13.100 / 58. 13.100
  libavfilter    7.110.100 / 7.110.100
  libswscale     5.  9.100 / 5.  9.100
  libswresample  3.  9.100 / 3.  9.100
  libpostproc   55.  9.100 / 55.  9.100
Input #0, png_pipe, from 'Lenna.png':
  Duration: N/A, bitrate: N/A
  Stream #0:0: Video: png, rgb24(pc), 512x512, 25 fps, 25 tbr, 25 tbn, 25 tbc
Stream mapping:
  Stream #0:0 -> #0:0 (png (native) -> png (native))
Press [q] to stop, [?] for help
Output #0, image2, to '500x100.png':
  Metadata:
    encoder      : Lavf58.76.100
  Stream #0:0: Video: png, rgb24(pc, gbr/unknown/unknown, progressive), 500x100, q=2-31, 200 kb/s, 25 fps, 25 tbn
  Metadata:
    encoder      : Lavc58.134.100 png
frame=      1 fps=0.0 q=0.0 lsize=N/A time=00:00:00.04 bitrate=N/A speed=1.44x
video:134kB audio:0kB subtitle:0kB other streams:0kB global headers:0kB muxing overhead: unknown
```

Apliquem el canvi a black and white a la imatge:

```
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$ ffmpeg -i Lenna.png -vf format=gray bw.png
ffmpeg version 4.4.2-0ubuntu0.22.04.1 Copyright (c) 2000-2021 the FFmpeg developers
  built with gcc 11 (Ubuntu 11.2.0-19ubuntu1)
  configuration: --prefix=/usr --extra-version=0ubuntu0.22.04.1 --toolchain=hardened --libdir=/usr/lib/x86_64-linux-gnu --incdir=
  le-gnutls --enable-ladspa --enable-libaom --enable-libass --enable-libbluray --enable-libbs2b --enable-libcaca --enable-libcdio --
  ble-libfreetype --enable-libfribidi --enable-libgme --enable-libgsm --enable-libjack --enable-libmp3lame --enable-libmysofa --ena
  brabbitmq --enable-librubberband --enable-libshine --enable-libsnappy --enable-libsoxr --enable-lspspeex --enable-lsrt --enable
  bis --enable-libvpx --enable-libwebp --enable-libx265 --enable-libxml2 --enable-libxvid --enable-libzimg --enable-libzmq --enable
  --enable-sdl2 --enable-pocketsphinx --enable-librsvg --enable-libmfx --enable-libdc1394 --enable-libdrm --enable-libiec61883 --e
  libavutil      56. 70.100 / 56. 70.100
  libavcodec     58.134.100 / 58.134.100
  libavformat    58. 76.100 / 58. 76.100
  libavdevice    58. 13.100 / 58. 13.100
  libavfilter    7.110.100 / 7.110.100
  libswscale     5.  9.100 / 5.  9.100
  libswresample  3.  9.100 / 3.  9.100
  libpostproc   55.  9.100 / 55.  9.100
Input #0, png_pipe, from 'Lenna.png':
  Duration: N/A, bitrate: N/A
  Stream #0:0: Video: png, rgb24(pc), 512x512, 25 fps, 25 tbr, 25 tbn, 25 tbc
Stream mapping:
  Stream #0:0 -> #0:0 (png (native) -> png (native))
Press [q] to stop, [?] for help
Output #0, image2, to 'bw.png':
  Metadata:
    encoder      : Lavf58.76.100
  Stream #0:0: Video: png, gray(pc, progressive), 512x512, q=2-31, 200 kb/s, 25 fps, 25 tbn
  Metadata:
    encoder      : Lavc58.134.100 png
frame=   1 fps=0.0 q=-0.0 lsize=N/A time=00:00:00.04 bitrate=N/A speed=1.06x
video:218kB audio:0kB subtitle:0kB other streams:0kB global headers:0kB muxing overhead: unknown
roger@LAPTOP-ULVA9RBV:/mnt/c/Lab1$
```

Imatge original Lenna:



RESULTATS:

100x100:



320x240:



500x100:



Bw:

