Pau Casesnoves
Centre Integrat de Formació Professional

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Disseny d'Interfícies Web

Images activities

Exercise 1 - Images and licenses

Look for any web page used for image sharing with different types of licenses. It will be useful if that web has some kind of filter for searching images (as Openverse at https://wordpress.org/openverse). Find 5 different images with more than 1024px width. Download them and complete the next table.

License	Image size (in pixels)	Print size in mm (*)	Author	URL
Public domain	3286 × 2090	278,21 x 176,95	Andreas Hendrik	https://www.flickr.com/photos/98611065@N00/17147904498
CC BY	1919 x 1173	162,48 x 99,31	Qrodo Photos	https://www.flickr.com/photos/39937683@N03/3775825809
CC BY-NC	1200 x 499	101,6 x 42,25	TexasEagle	https://www.flickr.com/photos/10789832@N00/22822370981
CC BY-ND	453 x 682	38,35 x 57,74	Photo Extremist	https://www.flickr.com/photos/27027945@N07/4839060646
CC BY-SA	1620 x 1080	137,16 x 91,44	perspec_photo88	https://www.flickr.com/photos/111692634@N04/15327725543

(*) 300 DPI

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Explain the main differences among the licenses on the table.

These differences can be better observed with a table:

CC LICENSES	You can redistribute (copy, publish, display, communicate, etc)	You have to attribute the original work	You can use the work commercially	You can modify and adapt the original work	You can choose license type in your adaptations of the work
Public domain	**YES**	**NO**	**YES**	**YES**	**YES**
CC BY	**YES**	**YES**	**YES**	**YES**	**YES**
CC BY-NC	**YES**	**YES**	**NO**	**YES**	**YES**
CC BY-SA	**YES**	**YES**	**NO**	**YES**	**NO**
CC BY-ND	**YES**	**YES**	**NO**	**NO**	**NO**

Explain the relationship between image size in pixels and image print size.

A new factor must be introduced to account for the relationship between image size and print size. This factor is the resolution or DPI (dots per inch), so that the higher the resolution, the smaller the print size:

	PIXELS	**PRINT SIZE ACCORDING TO DPI (in mm)**		
		150	**300**	**600**
WIDTH	**3286**	556,43	278,21	139,11
HEIGHT	**2090**	353,91	176,95	88,48

How to calculate the print size = (pixels*2,54/dpi)*10

We can deduce that the relationship is inverse

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Exercise 2 - Create a logo with Inkscape

Using the Inkscape software you have to create a logo using SVG file format.

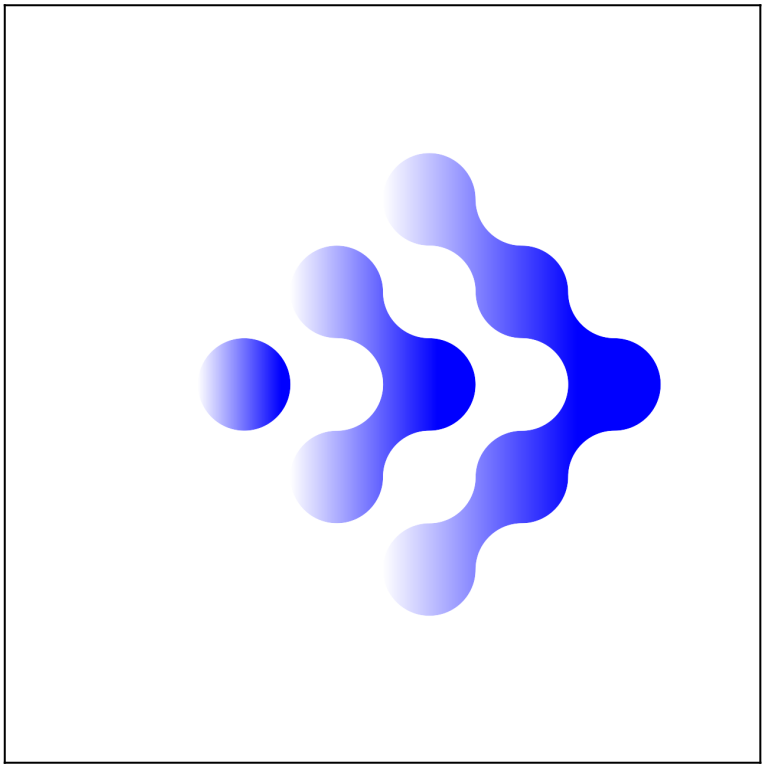
- **Watch the video on this page**

  Logo Design Tutorial - Inkspace the Inkscape Gallery.

  You have to create a simple logo for a company or a web page. Try to follow the 5 qualities recommended in this blog. Justify where the qualities can be observed on your logo.

  You will deliver your final SVG logo.

  This is my logo:



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I do not have the necessary skills to affirm that my design meets each and every one of the five qualities, however I will try to explain what it tries to convey:

- Simplicity: A simple logo is easier to recognize and understand, making it easier to remember. The simplicity in this design can be seen in the existence of a few clear shapes, the blue color as the predominant color that increases in intensity and a clean design without complexity.

- Relevance: A relevant logo is one that effectively communicates the company's values and goals. My design represents a company that designs, builds and sells high-quality sports sailing boats. The logo represents the sails of a ship or the waves of the sea and a sensation of dynamism that always drives it forward with more strength and open to innovation.

- Easy to remember: A memorable logo is one that is easily recognizable and stays in the minds of those who see it. I believe that this design meets this quality by being simple, clean and with simple shapes.

- Timelessness – A timeless logo is one that does not become outdated or lose its appeal over time. This design meets this quality, like the previous one, for being simple, clean and with simple shapes.

- Versatility – A versatile logo is one that can be used effectively in a variety of media, including print, digital, and packaging. This layout is scalable, readable in both large and small sizes, and can be used in different contexts without losing its impact.
  In addition, adding a small text can represent the different product lines of the company: windsurfing, kitesurfing, sailing...

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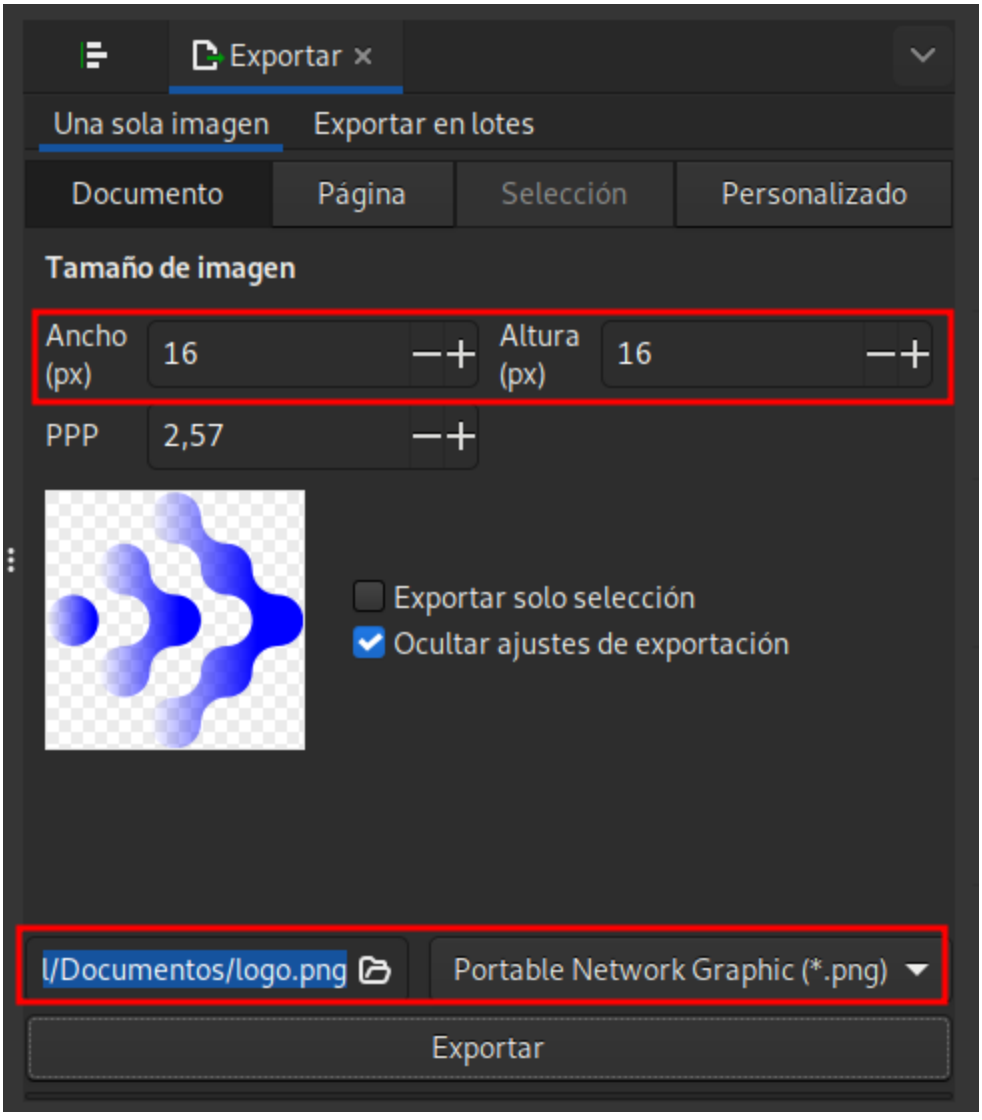
- **Create a favicon using your logo using .ico file format. Place it in an HTML file to see the result in a browser. Explain the overall process.**

```
<!DOCTYPE html>
<html>
        <head>
                <title>Image optimization</title>
        </head>
        <body>
        </body>
</html>
```

I export my design in Inkscape to 16x16 pixel PNG file



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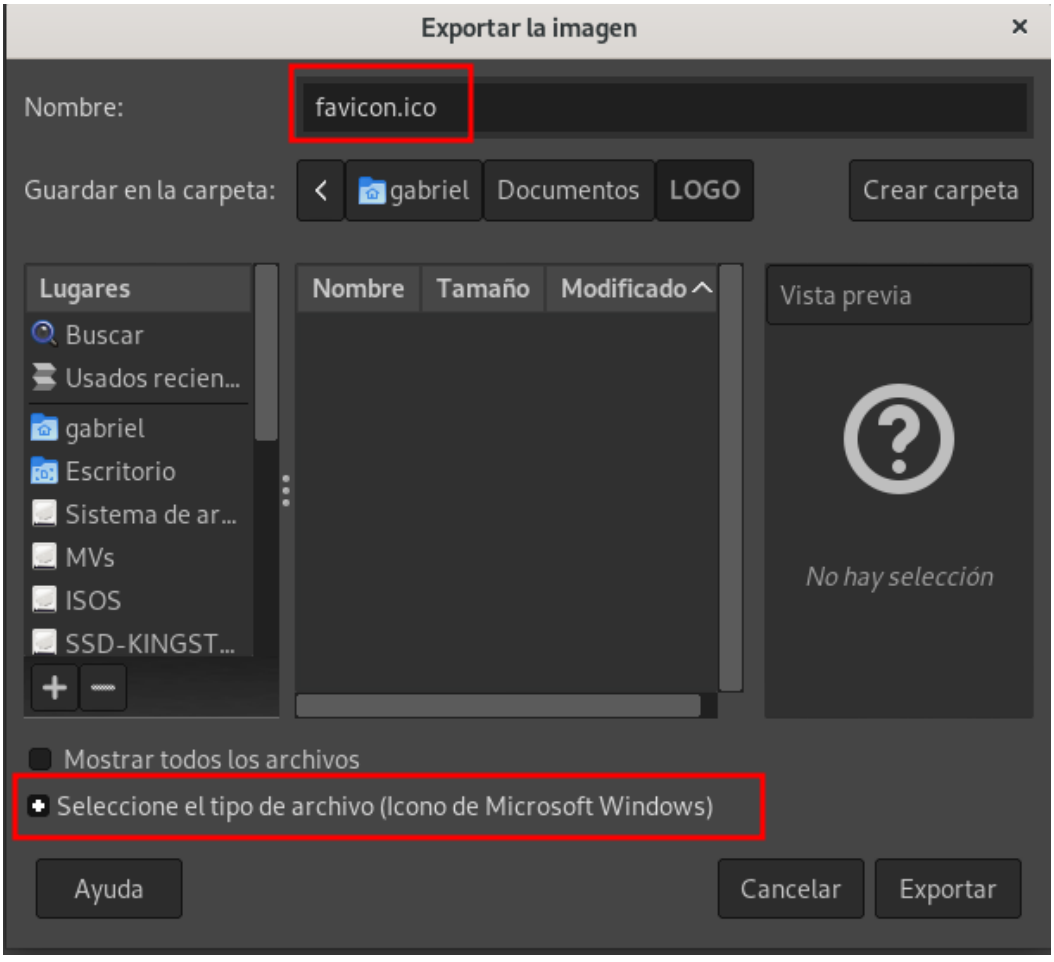
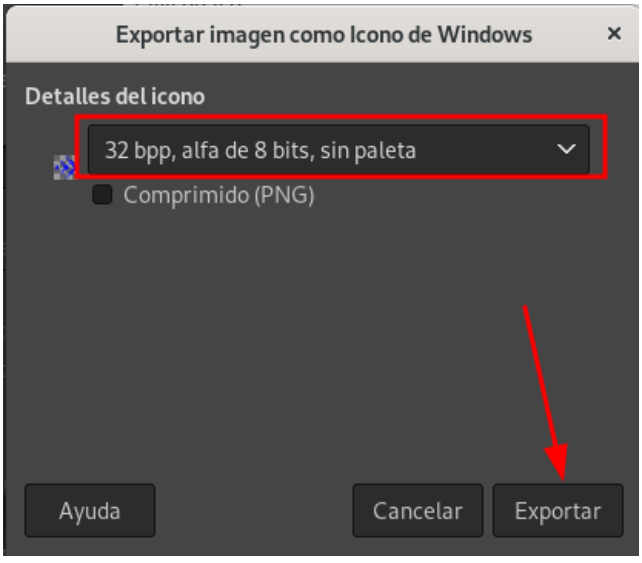
With GIMP, I save the image as “Microsoft Windows Icon”, with the name favicon.ico and details “32boo, 8-bit alpha, no palette”





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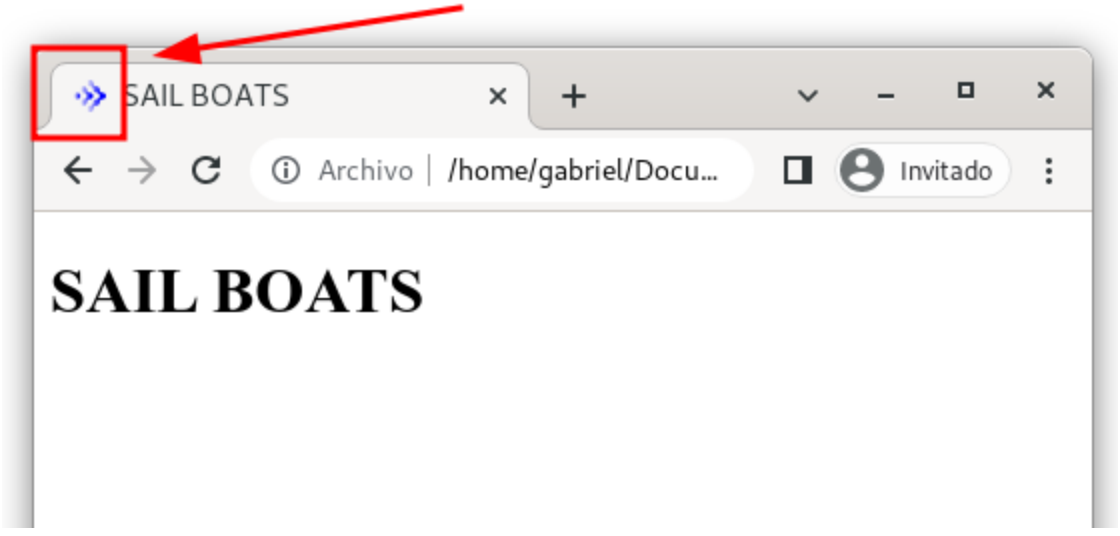
I upload the favicon.ico to the root directory of the website, and I modify the html page:

```
<!DOCTYPE html>
<html lang="ca">
      <head>
            <meta charset="UTF-8" />
            <meta http-equiv="X-UA-Compatible" content="IE=edge" />
            <meta name="viewport" content="width=device-width,
            initial-scale=1.0" />
            <title>SAIL BOATS</title>
            <link
                  rel="icon"
                  type="image/x-icon"
                  sizes="128x128"
                  href="favicon.ico"
            />
      </head>
      <body>
            <h1>SAIL BOATS</h1>
      </body>
</html>
```

This is the result:



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Exercise 3 - Images for the web.

Sometimes we need to adapt the images on our web pages to reduce the workload or the number of requests sent to the server. Another option is to work with more than one screen layout. It lets us have a better presentation on different devices using the same HTML code.

- **Modify the size of the images used in Exercise 1. You can use any process seen in class but the more automated the higher the rating. Document the process used to transform all the images to these sizes:**
    - **1024px width**
    - **768px width**
    - **460px width**

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To modify the size of the images, I will use this bash script that I have coded:

```
#!/bin/bash

# Nom del directori on estan les imatges que volem modificar
carpeta="/home/gabriel/Imágenes/imatges"

# Resolució final de les imatges (WIDTH)
size_1024="1024x"
size_768="768x"
size_460="460x"

# Ens siTuam en el directori
cd $carpeta

# Iteram per cada imatge en carpeta
for fitxer in $carpeta/*
do

  # Desam el nom inicial del fitxer per obtenir els noms finals
  nom_fitxer_sense_ext=$(echo "$fitxer" | cut -d . -f1)
  nom_nou_fitxer_1024="$nom_fitxer_sense_ext $size_1024"
  nom_nou_fitxer_768="$nom_fitxer_sense_ext $size_768"
  nom_nou_fitxer_460="$nom_fitxer_sense_ext $size_460"

  # Amb ImageMagick modificam el tamany de la imatge

  convert $fitxer -resize $size_1024 "$nom_nou_fitxer_1024.jpg"
  convert $fitxer -resize $size_768 "$nom_nou_fitxer_768.jpg"
  convert $fitxer -resize $size_460 "$nom_nou_fitxer_460.jpg"

done

# Missatge final
echo "EXECUCIÓ COMPLETADA!"
```

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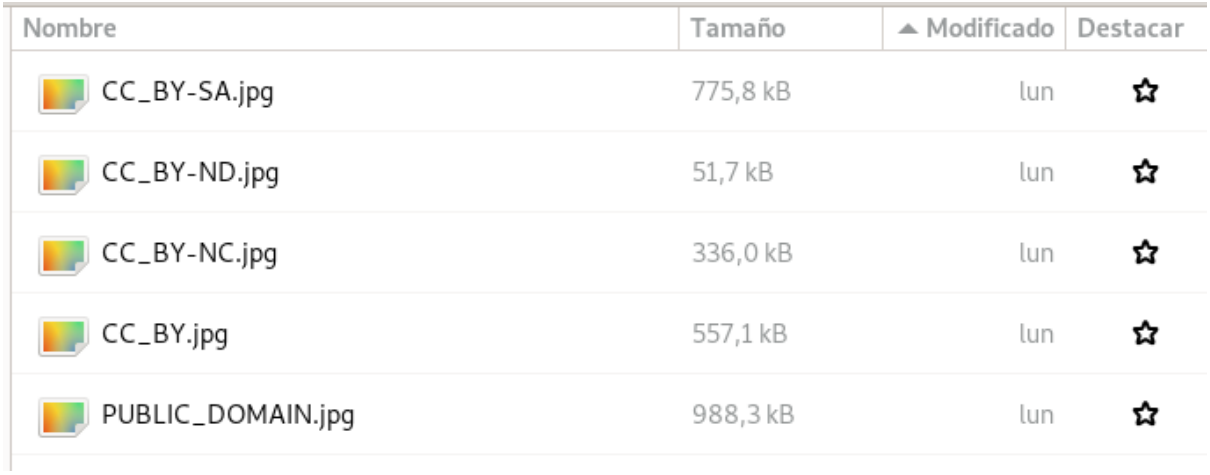
But first, let's see the original size of the images:

```
gabriel@debian11:~/Imágenes/imatges$ identify -format "%f %wx%h\n" *
CC_BY.jpg 1919x1173
CC_BY-NC.jpg 1200x499
CC_BY-ND.jpg 453x682
CC_BY-SA.jpg 1620x1080
PUBLIC_DOMAIN.jpg 3286x2090
gabriel@debian11:~/Imágenes/imatges$
```



Nombre	Tamaño	Modificado	Destacar
CC_BY-SA.jpg	775,8 kB	lun	☆
CC_BY-ND.jpg	51,7 kB	lun	☆
CC_BY-NC.jpg	336,0 kB	lun	☆
CC_BY.jpg	557,1 kB	lun	☆
PUBLIC_DOMAIN.jpg	988,3 kB	lun	☆

We run the script

```
gabriel@debian11:~/Imágenes/script$ ./resize_images.sh
EXECUCIÓ COMPLETADA!
gabriel@debian11:~/Imágenes/script$
```

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ET VOILÀ

```
gabriel@debian11:~/Imágenes/imatges$ identify -format "%f %wx%h\n" *
CC_BY.jpg 1919x1173
CC_BY-NC.jpg 1200x499
CC_BY-ND.jpg 453x682
CC_BY-SA.jpg 1620x1080
PUBLIC_DOMAIN.jpg 3286x2090
gabriel@debian11:~/Imágenes/imatges$ identify -format "%f %wx%h\n" *
CC_BY 1024x.jpg 1024x626
CC_BY 460x.jpg 460x281
CC_BY 768x.jpg 768x469
CC_BY.jpg 1919x1173
CC_BY-NC 1024x.jpg 1024x426
CC_BY-NC 460x.jpg 460x191
CC_BY-NC 768x.jpg 768x319
CC_BY-NC.jpg 1200x499
CC_BY-ND 1024x.jpg 1024x1542
CC_BY-ND 460x.jpg 460x693
CC_BY-ND 768x.jpg 768x1156
CC_BY-ND.jpg 453x682
CC_BY-SA 1024x.jpg 1024x683
CC_BY-SA 460x.jpg 460x307
CC_BY-SA 768x.jpg 768x512
CC_BY-SA.jpg 1620x1080
PUBLIC_DOMAIN 1024x.jpg 1024x651
PUBLIC_DOMAIN 460x.jpg 460x293
PUBLIC_DOMAIN 768x.jpg 768x488
PUBLIC_DOMAIN.jpg 3286x2090
gabriel@debian11:~/Imágenes/imatges$
```

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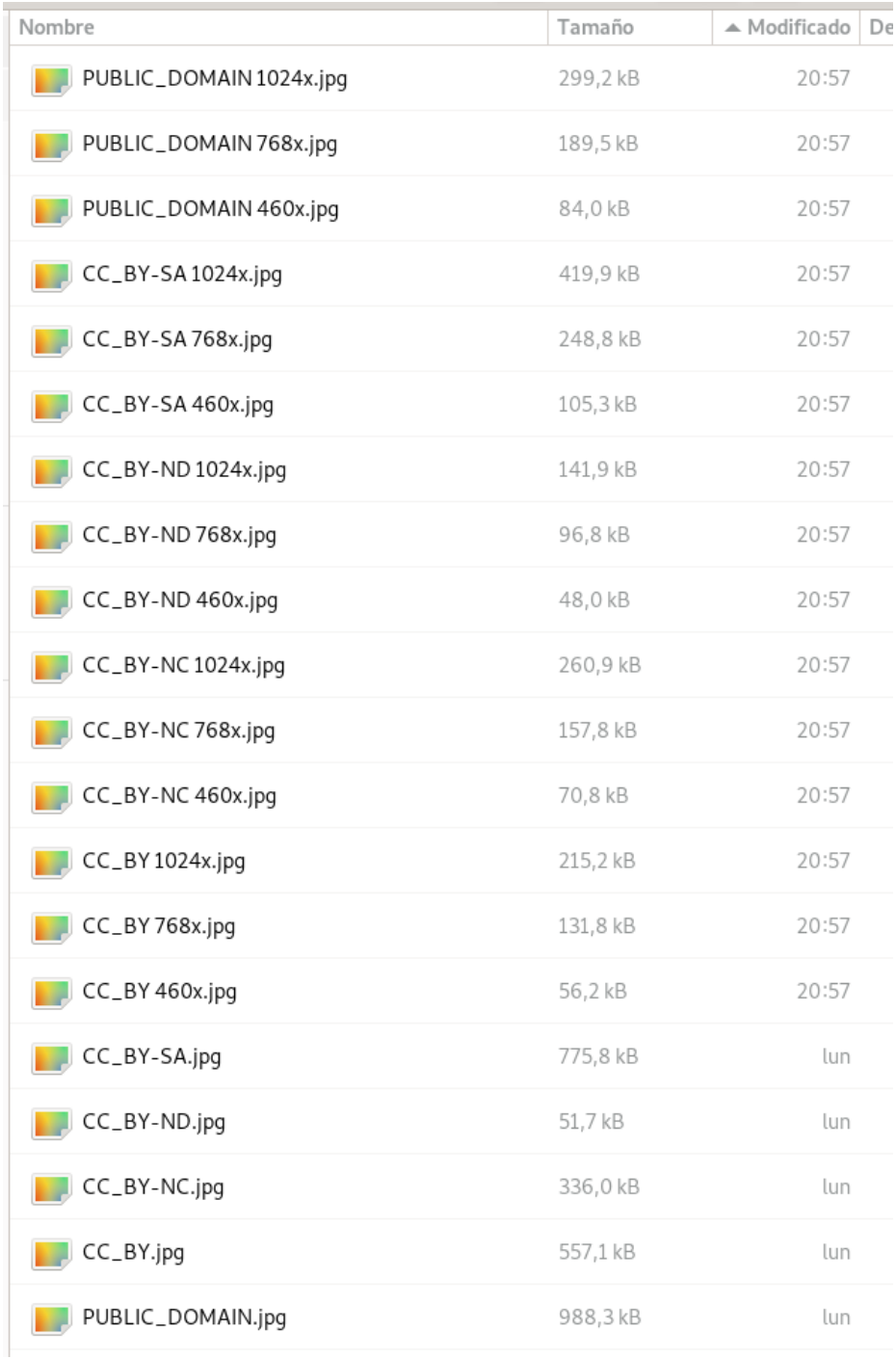

Nombre	Tamaño	Modificado	De
PUBLIC_DOMAIN 1024x.jpg	299,2 kB	20:57	
PUBLIC_DOMAIN 768x.jpg	189,5 kB	20:57	
PUBLIC_DOMAIN 460x.jpg	84,0 kB	20:57	
CC_BY-SA 1024x.jpg	419,9 kB	20:57	
CC_BY-SA 768x.jpg	248,8 kB	20:57	
CC_BY-SA 460x.jpg	105,3 kB	20:57	
CC_BY-ND 1024x.jpg	141,9 kB	20:57	
CC_BY-ND 768x.jpg	96,8 kB	20:57	
CC_BY-ND 460x.jpg	48,0 kB	20:57	
CC_BY-NC 1024x.jpg	260,9 kB	20:57	
CC_BY-NC 768x.jpg	157,8 kB	20:57	
CC_BY-NC 460x.jpg	70,8 kB	20:57	
CC_BY 1024x.jpg	215,2 kB	20:57	
CC_BY 768x.jpg	131,8 kB	20:57	
CC_BY 460x.jpg	56,2 kB	20:57	
CC_BY-SA.jpg	775,8 kB	lun	
CC_BY-ND.jpg	51,7 kB	lun	
CC_BY-NC.jpg	336,0 kB	lun	
CC_BY.jpg	557,1 kB	lun	
PUBLIC_DOMAIN.jpg	988,3 kB	lun	

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- **Create a simple HTML page. Use the <picture> element to help the browser choose between several image files. Comment your HTML code to explain what you want to do.**

  Using HTML code, let the browser select the best image based on its actual width:
  - **If viewport greater than 768px: 1024px width image, using 80% of the viewport width**
  - **If viewport greater than 460px: 768px width image, using 100% of viewport width**
  - **Otherwise: 460px width image, using 50% of viewport width**

```
<!DOCTYPE html>
<html lang="ca">
      <head>
            <meta charset="UTF-8" />
            <meta http-equiv="X-UA-Compatible" content="IE=edge" />
            <meta name="viewport" content="width=device-width,
            initial-scale=1.0" />
            <title>RACE BIKE</title>
            <link
                  rel="icon"
                  type="image/x-icon"
                  sizes="128x128"
                  href="img/favicon.ico"
            />
      </head>
      <body>
            <h1>JeSuisSports</h1>
            <!-- This is an HTML page that uses the <picture >
            element to choose between several image files based on
            the viewport width -->
            <picture>
                  <!-- If viewport width is greater than 768px, use
                  1024px width image, using 80% of the viewport width
                  -->
                  <source
                        media="(min-width: 768px)"
                        srcset="img/PUBLIC_DOMAIN_1024x.jpg"
                        style="width: 80%"
                  />
```

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```
                <!-- If viewport width is greater than 460px, use
                768px width image, using 100% of the viewport width
                -->
                <source
                      media="(min-width: 460px)"
                      srcset="img/PUBLIC_DOMAIN_768x.jpg"
                      style="width: 100%"
                />

                <!-- Otherwise, use 460px width image, using 50% of
                the viewport width -->
                <img
                      src="img/PUBLIC_DOMAIN_460x.jpg"
                      style="width: 50%"
                      alt="RACE BIKE"
                />
          </picture>
     </body>
</html>
```

Check this links if you need more information about responsive images:
Viewport width relative length
Picture and srcset
Responsive Images

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Qualification
To deliver:

- Exercise 1: Table, images and questions. (30%)
- Exercise 2: SVG logo and favicon into HTML file. (30%)
- Exercise 3: HTML file and the adapted images. (40%)

Justifying your decisions is very important. Always explain how you get to the delivered solution for each section. Without your explanation it can not be evaluated. Your delivered document must have a regular format. Create a ZIP with all the files and upload to the activity.