{EPITECH}
LEARN DIFFERENT*

MY_PAINT

PICTURE EDITOR

MY_PAINT

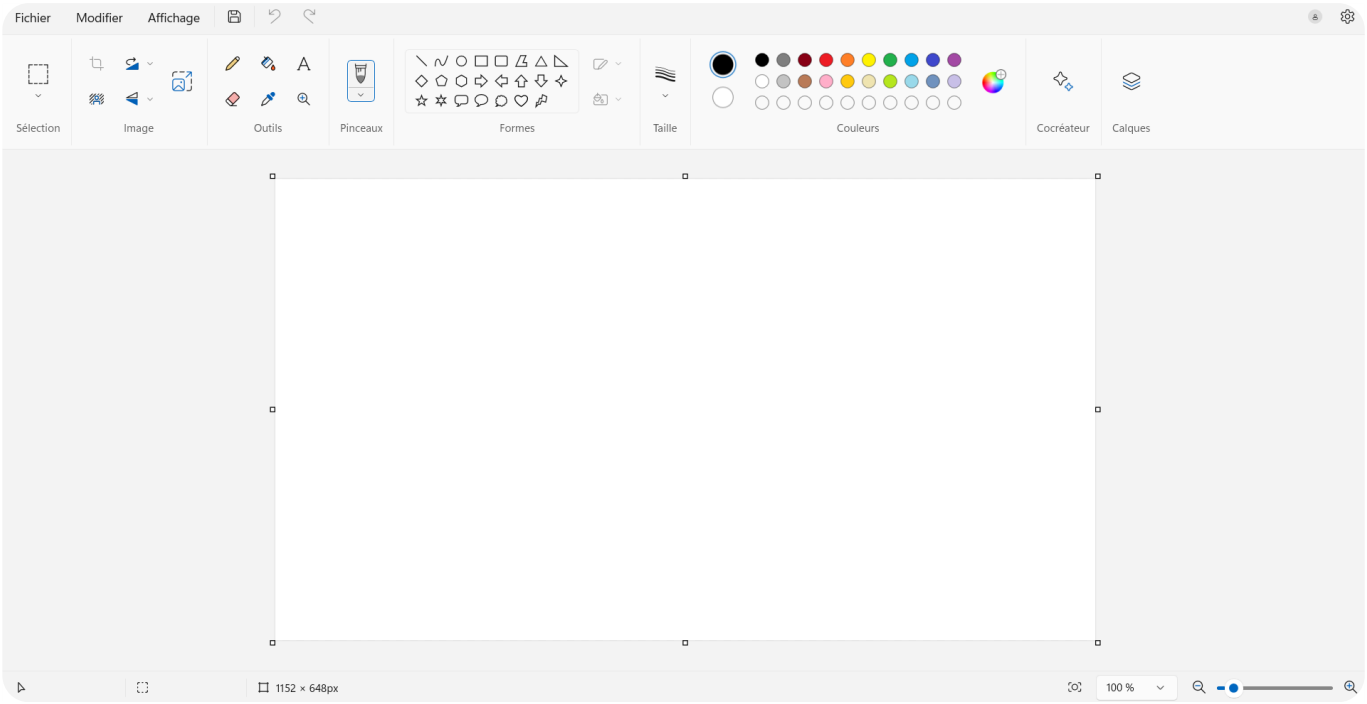
binary name: my_paint
language: C
compilation: via Makefile, including re, clean and fclean rules

- ✓ The totality of your source files, except all useless files (binary, temp files, objfiles,...), must be included in your delivery.
- ✓ Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).

Context

So far, you have created command line (bash) projects. But, you don't use command line daily, but a ***Graphic User Interface***.

Throught this project, you will develop your own **GUI** by creating a *paint* like software.



The aim is to work on GUI. Menu, scrolling menu, button (radio or check). Use and change tool, and so on.

Requirements

Must

- ✓ Window that you can minimize, enlarge and close
- ✓ Provide at least the *pencil* and *eraser* tools
- ✓ Buttons must have different states (at least 3 : HOVER, PRESSED and CLICKED for example)
- ✓ A menu bar, with at least the *file*, *edit* and *help* features. Each item must be a drop-down menu
  - In the *file* item, the options *new file*, *open file*, *save file*.
  - In the *edition* item, the selection of the *pencil* and *eraser* tools
  - In the *help* item, the options *about* (which must display your login), and *help* (which explains how to use the software)
- ✓ A new *side-menu* (tool bar) poping up upon tool selection which allows you modify it :
  - For *pencil* : change the line thickness
  - For *eraser* : change the shape (circle or square) and its size
- ✓ Be able to make a drawing with the tools using the mouse
- ✓ Save the image (.jpg format by default)

Should

- ✓ User could enter a file name in the terminal or in a new window poping up when chosing an option in *file* menu drop down
- ✓ Layer management
- ✓ A *side menu* with the color palette for the *pencil* tool
- ✓ Save the image in other formats (.bmp and .png)
- ✓ Add basic shapes (circle, rectangle)
- ✓ Ability to zoom on the image
- ✓ Add the *selection* tool (with a rectangle shape)
- ✓ Add the *cut*/*copy*/*paste* options in the *edition* menu, usable on a part of the image previously selected with the *selection* tool, AND the *paste* to another place of the image, or on another layer.

Could

- ✓ Layer mask management
- ✓ Image import
- ✓ Management of *brush* for the *pencil* and *eraser* tools
- ✓ Add complex shapes (convex)
- ✓ Management of transformations (translation, rotation) of entities
- ✓ Add *undo* and *redo* operation in edition menu

Bonus

Take inspiration from software like *GIMP*, or *Photoshop*.

Authorized functions

All the functions from the CSFML and the math library are allowed.
From the libc, here is the full list of authorized functions:

malloc	**getline**	**opendir**
free	**(f)open**	**readdir**
memset	**(f)read**	**closedir**
(s)rand	**(f)close**	
(f)stat,	**(f)write**,	

Any unspecified functions are de facto banned.

v 2.0