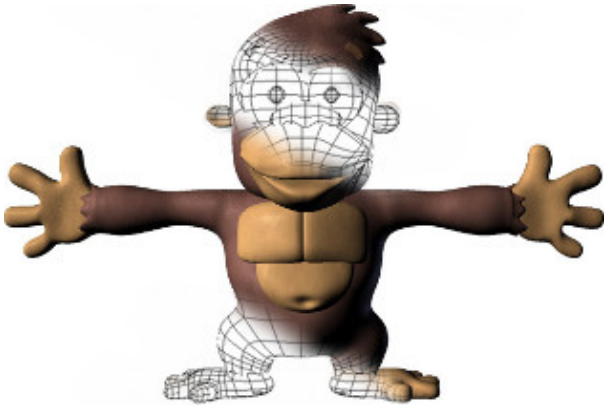
B1 - C Graphical Programming

B-MUL-100

CSFML Initiation

C Graphical Programming Bootstrap



1.2

OPENING A WINDOW

The goal of this Bootstrap is to display your first images in a window.
The first step, obviously, is to open this very window.
In order to do this, look at the **sfRenderWindow** documentation page and check out all its associated functions, like `sfRenderWindow_create`.

```
CSFML_GRAPHICS_API sfRenderWindow* sfRenderWindow_create (sfVideoMode mode,
                                                          const char * title,
                                                          sfUint32 style,
                                                          const sfContextSettings * settings
                                                         )
```

Construct a new render window.

Parameters

- **mode** Video mode to use
- **title** Title of the window
- **style** Window style
- **settings** Creation settings (pass NULL to use default values)

After that, your first step is to open an 800x600 window.

The point of this exercise is not just to open a window, but also to keep it open!

DISPLAYING PIXELS

The main page of the documentation introduces code sample allowing you to draw a pixel in a window.
Some functions need to be filled in.
Try to code the following functions :

- framebuffer_create
- framebuffer_destroy
- my_put pixel

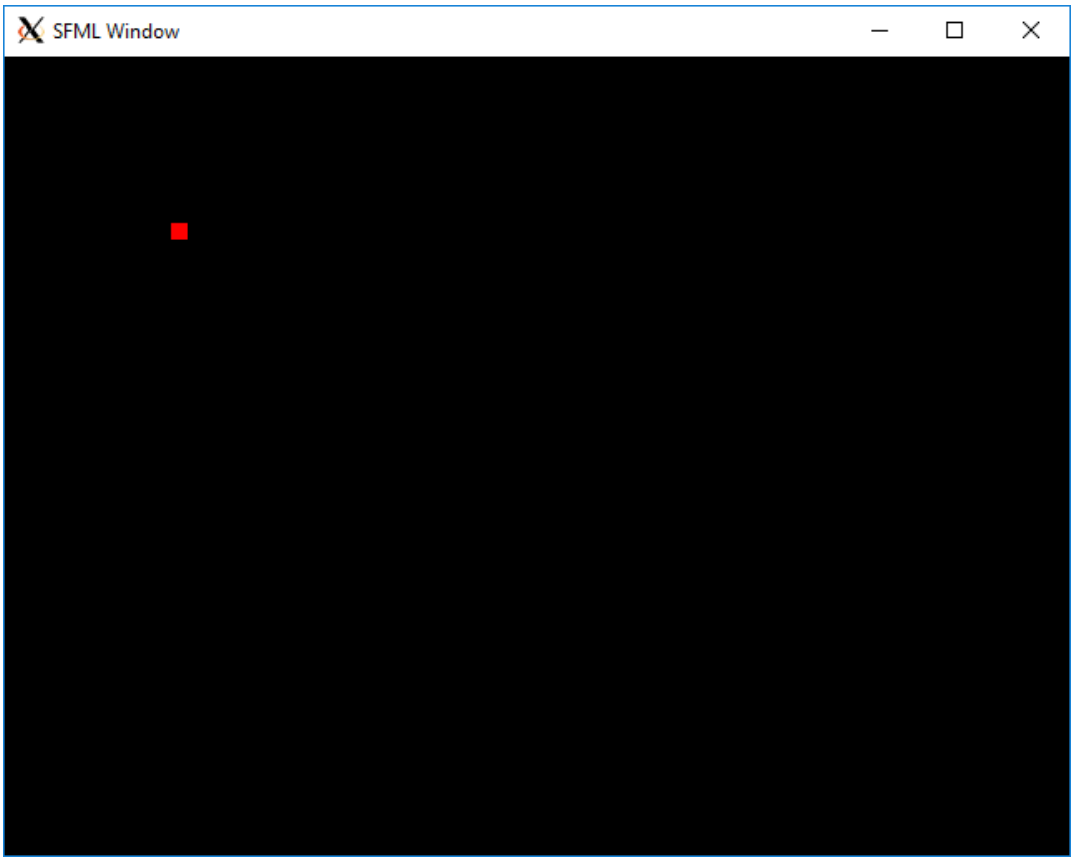
Read carefully the comment inside each function.

Drawing a square

Let's display a blue square of 10 pixels by 10 pixels at the position (100 ; 100).
Create a `my_draw_square` function with the following prototype:

```
void my_draw_square(framebuffer_t *buffer, sfVector2u position,
                                                unsigned int size, sfColor color);
```

Here is the result you should get:



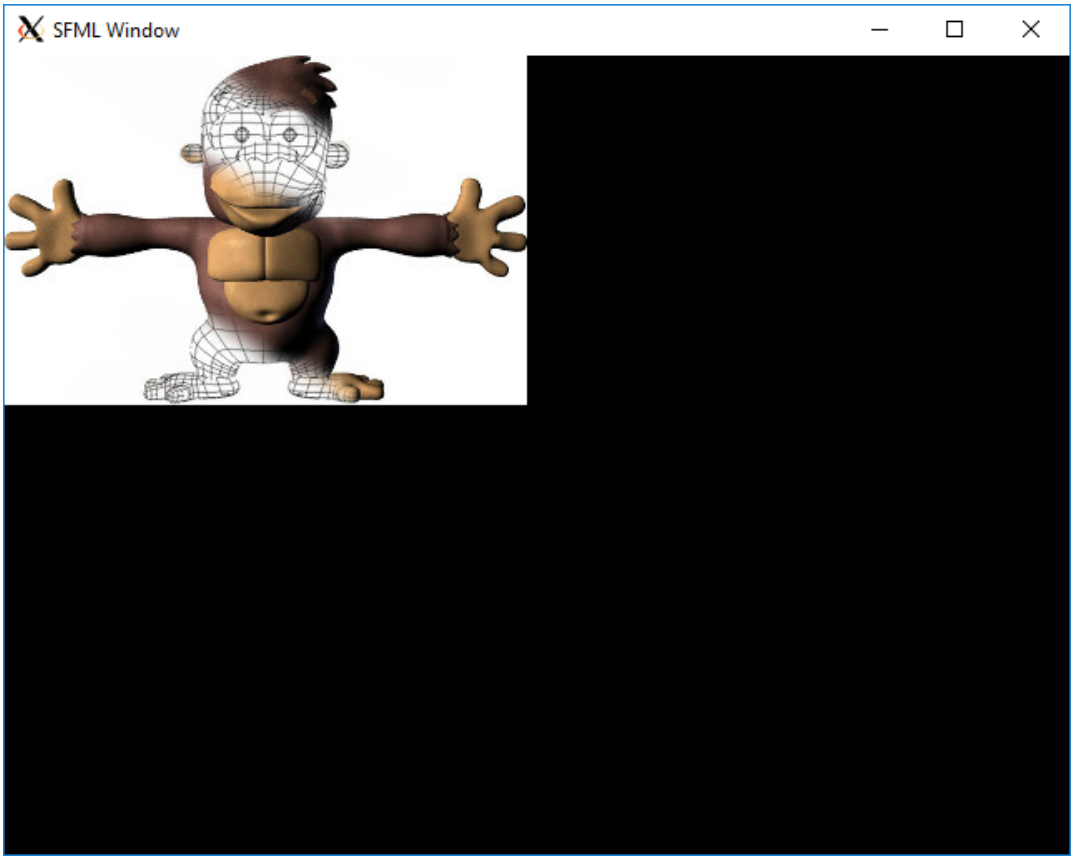
According to you, where should look for some information about sfVector2u??

DISPLAYING AN IMAGE

To complete this initiation, you need to display an existing image from a file in your window.

You should have already found that you need to refer to the *sfTexture_createFromFile* function.

Here is an example of the result of an image loaded in this way:



GOING FURTHER

If you are done with the previous exercises, take some time to check CSFML functions.
Test them and implement some nice features:

- drawing more shapes (circles,…),
- displaying several images,
- moving shapes or images,
- adding some sound,
- building a full layer-based computer-aided architectural design software,
- …