

PixelArtTikz [en]

PixelArts, with TikZ,
with solution and colors.

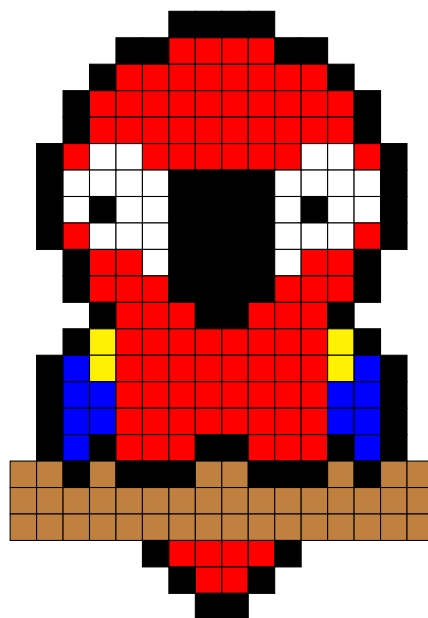
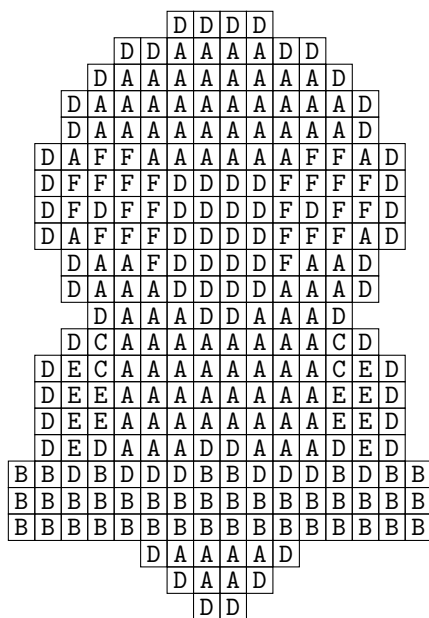
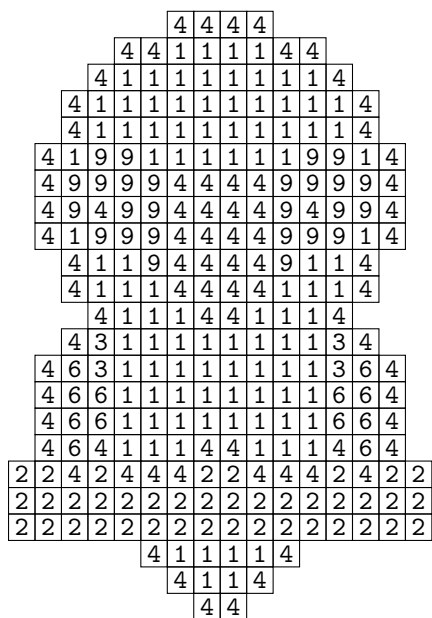
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<https://github.com/cpierquet/PixelArtTikz>

- Commands to display PixelArts.
- Environment to complete the PixelArt.



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Part I

Introduction

1 The package PixelArtTikz

1.1 Introduction

The idea is to *propose*, within a *TikZ* environment, a macro to generate PixelArt.

The data is *read* from a *csv* file, already existing in the folder of the *tex* file, or created on-the-fly by *filecontents*.

Some advices about the *cvs* file :

- the *csv* file must use "," as separator;
- empty cells are coded by "-".

```
\begin{filecontents*}{filename.csv}
A,B,C,D
A,B,D,C
B,A,C,D
B,A,D,C
\end{filecontents*}
```

Code \LaTeX

While compiling, the file *filename.csv* will be created, and the option **<[overwrite]>** will propagate the modifications!

1.2 Loading of the package, and option

The package *csvsimple* is necessary in order to read the *csv* file.

The package is available in two versions, one written in $\LaTeX 2_{\epsilon}$ and the other in $\LaTeX 3$. By default, *PixelArtTikz* loads the $\LaTeX 3$ version, but an *option* is available to work with the $\LaTeX 2_{\epsilon}$ version.

The option **<[csvii]>** forces the usage of the $\LaTeX 2_{\epsilon}$ version.

```
\usepackage{PixelArtTikz}           %package latex3
%which loads
%\RequirePackage{expl3}
%\RequirePackage[l3]{csvsimple}

\usepackage[csvii]{PixelArtTikz}    %package latex2
%which loads
%\RequirePackage[legacy]{csvsimple}
```

Code \LaTeX

1.3 Used packages

It's fully compatible with usual \LaTeX engines, such as *latex*, *pdflatex*, *lualatex* or *xelatex*.

It loads the following packages and libraries:

- *tikz*, *xintexpr* et *xinttools*;
- *xstring*, *xparse*, *simplekv* and *listofitems*.

1.4 Macros and environment

There are two ways to create PixelArt:

- with an independent macro;
- with a `TikZ` environment in order to add code afterwards.

Code `!TeX`

```
%Independent macro
\PixelArtTikz[keys]<options tikz>{file.csv}

%Semi-independent macro, in a tiks environment
\PixelArtTikz*[keys]{file.csv}

%environment
\begin{EnvPixelArtTikz}[keys]<options tikz>{file.csv}
  %tikz code
\end{EnvPixelArtTikz}
```

2 Colors

Concerning colors: the user can use all colors provided by loaded packages!

Without extra packages, the available colors are:

magenta	cyan	blue	green	red	darkgray	olive	lime	brown	lightgray
white	gray	black	yellow	violet	teal	purple	pink	orange	

Part II

Macros and environment

3 Main macro

3.1 Example

The macro `\PixlArtTikz` needs :

- the file `csv`;
- the list (by a string) of codes used in the file `csv` (e.g. 234679 or ABCDJK...);
- the list of symbols (if needed) to print in the cells, e.g. 25,44,12 or AA,AB,AC;
- the list of colors (for the correction), same order as the codes.

We can begin by creating the file `csv`, directly within the `tex` code, or with a external file.

Code \LaTeX

```
%creation of the csv
\begin{filecontents*}[overwrite]{base.csv}
  A,B,C,D
  A,B,D,C
  B,A,D,C
  C,A,B,D
\end{filecontents*}
```

Code \LaTeX

```
%instructions and pixelarts
\begin{center}
  \begin{tblr}{colspec={*{4}{Q[1.25cm,c,m]}} ,hlines,vlines,rows={1.15em}}
    \SetCell[c=4]{c} Instructions & & & \\
    A & B & C & D \\
    45 & 22 & 1 & 7 \\
    Black & Green & Yellow & Red \\
  \end{tblr}
\end{center}

\PixlArtTikz[Codes=ABCD,Style=\large\sffamily,Unit=0.85]{base.csv}
~~
\PixlArtTikz[Codes=ABCD,Symbols={45,22,1,7},Symb,Style=\large\sffamily,Unit=0.85]{base.csv}
~~
\PixlArtTikz[Codes=ABCD,Colors={black,green,yellow,red},Correction,Unit=0.85]{base.csv}
~~
\PixlArtTikz[Codes=ABCD,Colors={black,green,yellow,red},Correction,Border=false,Unit=0.85]{base.csv}
```

Instructions			
A	B	C	D
45	22	1	7
Black	Green	Yellow	Red

A	B	C	D
A	B	D	C
B	A	D	C
C	A	B	D

45	22	1	7
45	22	7	1
22	45	7	1
1	45	22	7

3.2 Options and keys

```
\PixelArtTikz[keys]<options tikz>{file.csv}
```

Code \LaTeX

The first argument, *optional* and between [...] proposes the keys:

- the key **⟨Codes⟩** with the *string* of *simple* codes of the csv file;
- the key **⟨Colors⟩** with the *list* of colors;
- the key **⟨Symbols⟩** with the *optional list* of alt. symbols for the cells;
- the boolean **⟨Correction⟩** to color the PixelArt; default false
- the boolean **⟨Symb⟩** to print the symbols; default false
- the boolean **⟨Border⟩** to print borders of the cells; default true
- the key **⟨Style⟩** to specify the style of the text. default \scriptsize

The second argument, *optional* and between <...>, are TikZ options to pass on to the environment which creates the PixelArt.

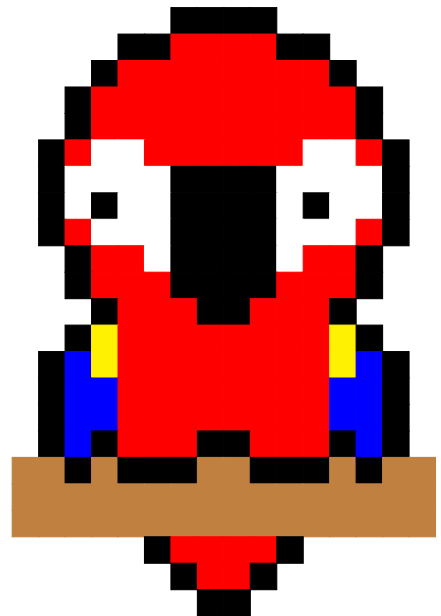
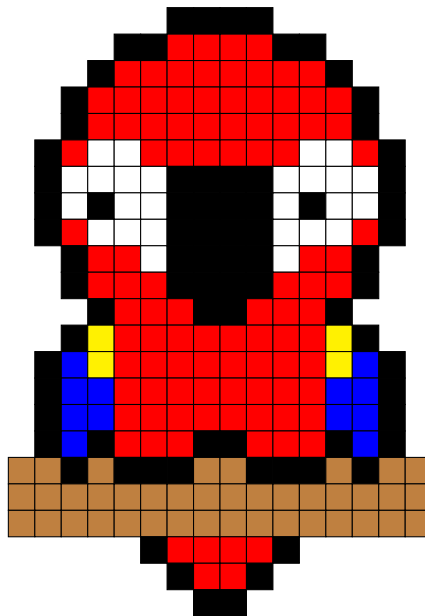
The third argument, *mandatory*, is the filename of the csv.

```
%creation of the csv
\begin{filecontents*}[overwrite]{test1.csv}
-,,-,-,-,4,4,4,4,-,-,-,-,-
-,,-,-,4,4,1,1,1,1,4,4,-,-,-
-,,-,-,4,1,1,1,1,1,1,1,1,4,-,-
-,,-,4,1,1,1,1,1,1,1,1,1,4,-,-
-,,-,4,1,1,1,1,1,1,1,1,1,1,4,-,-
-,,-,4,1,1,1,1,1,1,1,1,1,1,1,4,-,-
-,4,1,9,9,1,1,1,1,1,1,9,9,1,4,-
-,4,9,9,9,9,4,4,4,4,9,9,9,9,4,-
-,4,9,4,9,9,4,4,4,4,9,4,9,9,4,-
-,4,1,9,9,9,4,4,4,4,9,9,9,1,4,-
-,,-,4,1,1,9,4,4,4,4,9,1,1,4,-,-
-,,-,4,1,1,1,4,4,4,4,1,1,1,4,-,-
-,,-,-,4,1,1,1,4,4,1,1,1,4,-,-,-
-,,-,4,3,1,1,1,1,1,1,1,1,1,3,4,-,-
-,4,6,3,1,1,1,1,1,1,1,1,3,6,4,-
-,4,6,6,1,1,1,1,1,1,1,1,6,6,4,-
-,4,6,6,1,1,1,1,1,1,1,1,6,6,4,-
-,4,6,4,1,1,1,1,4,4,1,1,1,4,6,4,-
2,2,4,2,4,4,4,2,2,4,4,4,2,4,2,2
2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2
2,2,2,2,2,2,2,2,2,2,2,2,2,2,2,2
-,,-,-,-,4,1,1,1,1,4,-,-,-,-,-
-,,-,-,-,-,4,1,1,4,-,-,-,-,-,-
-,,-,-,-,-,4,4,-,-,-,-,-,-,-
\end{filecontents*}
```

Code \LaTeX

```
%simple codes
%empty case with -
\PixelArtTikz[Codes=123469,Style=\ttfamily,Unit=0.35]{test1.csv}
~~
\PixelArtTikz[Codes=123469,Colors={red,brown,yellow,black,blue,white},Correction,Unit=0.35]{test1.csv}
~~
\PixelArtTikz[Codes=123469,Colors={red,brown,yellow,black,blue,white},Correction,Unit=0.35,Border=false]{test1.csv}
```

			4	4	4	4			
		4	4	1	1	1	1	4	4
	4	1	1	1	1	1	1	1	4
4	1	1	1	1	1	1	1	1	4
4	1	1	1	1	1	1	1	1	4
4	1	9	9	1	1	1	1	1	9
4	9	9	9	9	4	4	4	9	9
4	9	4	9	9	4	4	4	9	4
4	1	9	9	9	4	4	4	9	1
	4	1	1	9	4	4	4	9	1
		4	1	1	1	4	4	4	1
			4	1	1	1	4	4	1
				4	1	1	1	1	4
					4	3	1	1	1
						4	6	3	1
							4	6	6
								4	6
									4
2	2	4	2	4	4	4	2	4	4
2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2	2
			4	1	1	1	1	4	
				4	1	1	4		
					4	4			



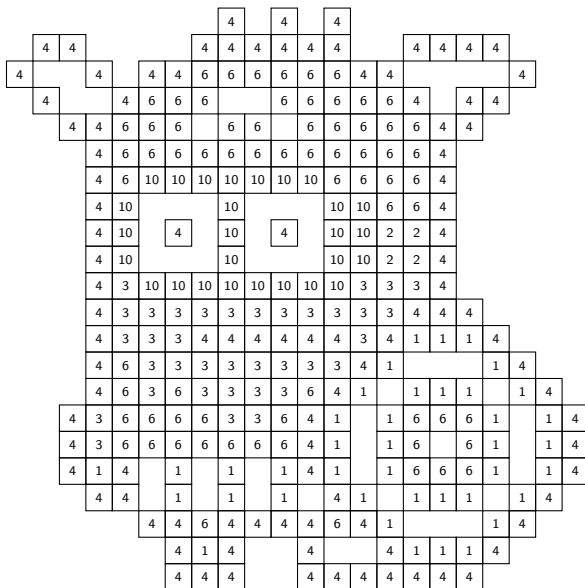
In the following example, the *symbols* to print can't be used for the *codes*, so we can use the keys **⟨Symbols⟩** and **⟨Symb⟩** to bypass this limitation.

Code \LaTeX

```
%symbols associated to codes
```

```
\begin{filecontents*}[overwrite]{cap.csv}
-, -, -, -, -, -, -, D, -, D, -, D, -, -, -, -, -, -, 
-, D, D, -, -, -, -, D, D, D, D, D, D, -, -, D, D, D, D, -, -
D, -, -, D, -, D, D, F, F, F, F, F, F, D, D, -, -, -, D, -, -
-, D, -, -, D, F, F, F, -, -, F, F, F, F, F, D, -, D, D, -, -, 
-, -, D, D, F, F, F, -, F, F, -, F, F, F, F, F, D, -, -, -, -
-, -, -, D, F, F, F, F, F, F, F, F, F, F, F, D, -, -, -, -
-, -, -, D, F, J, J, J, J, J, J, F, F, F, F, D, -, -, -, -
-, -, -, D, J, -, -, -, J, -, -, -, J, J, F, F, D, -, -, -, -
-, -, -, D, J, -, D, -, J, -, D, -, J, J, B, B, D, -, -, -, -
-, -, -, D, J, -, -, -, J, -, -, -, J, J, B, B, D, -, -, -, -
-, -, -, D, C, J, J, J, J, J, J, J, J, C, C, C, D, -, -, -, -
-, -, -, D, C, C, C, C, C, C, C, C, C, C, C, D, D, -, -, -, -
-, -, -, D, C, C, C, C, D, D, D, D, D, D, C, D, A, A, A, D, -, -, 
-, -, -, D, F, C, C, C, C, C, C, C, C, D, A, -, -, A, D, -, -
-, -, -, D, F, C, F, C, C, C, C, F, D, A, -, A, A, A, -, A, D, -
-, -, D, C, F, F, F, F, C, C, F, D, A, -, A, F, F, F, A, -, A, D
-, -, D, C, F, F, F, F, F, F, F, F, D, A, -, A, F, -, F, A, -, A, D
-, -, D, A, D, -, A, -, A, -, A, D, A, -, A, F, F, F, A, -, A, D
-, -, -, D, D, -, A, -, A, -, A, -, D, A, -, A, A, A, -, A, D, -
-, -, -, -, D, D, F, D, D, D, D, F, D, A, -, -, -, A, D, -, -
-, -, -, -, -, D, A, D, -, -, D, -, -, D, A, A, A, D, -, -, -
-, -, -, -, -, D, D, D, -, -, D, D, D, D, D, D, D, D, -, -, -
\end{filecontents*}
```

```
\PixlArtTikz[Codes=ABCDJ,Symbols={1,2,3,4,6,10},Symb,Style=\tiny\sffamily,Unit=0.35]{cap.csv}
~
\PixlArtTikz[Codes=ABCDJ,Colors={red,brown,yellow,black,blue,gray},Correction,Unit=0.35]{cap.csv}
```



3.3 Starred macro

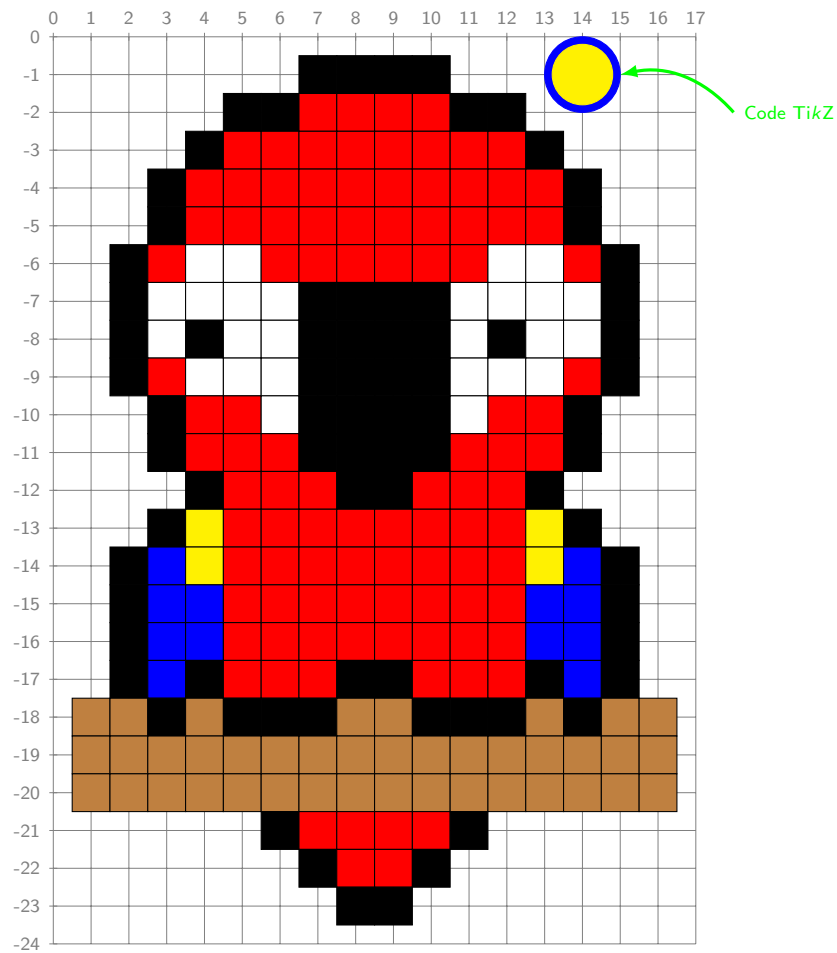
The starred macro `\PixelArtTikz*` is to be used within an already created environment. It can be useful for adding code after the `PixelArt`.

In this case:

- the *optional* argument between `<...>` is discarded;
- the key `\Unit` is discarded too (units can be configured in the environment!)

Code *MTX*

```
\begin{center}
\begin{tikzpicture}[scale=0.5]
%grid to show positioning
\draw[very thin,gray,xstep=1,ystep=1] (0,0) grid (17,-24) ;
\foreach \x in {0,1,...,17} \draw[very thin,gray] (\x,-3pt)--(\x,3pt)%
node[above,font=\scriptsize\sffamily] {\x} ;
\foreach \y in {0,-1,...,-24} \draw[very thin,gray] (3pt,\y)--(-3pt,\y)%
node[left,font=\scriptsize\sffamily] {\y} ;
%le PixelArt
\PixelArtTikz*[Codes=123469,Colors={red,brown,yellow,black,blue,white},Correction]{test1.csv}
%added code
\filldraw[blue] (14,-1) circle[radius=1] ;
\filldraw[yellow] (14,-1) circle[radius=0.8] ;
\draw[green,very thick,<,>=latex] (15,-1) to[bend left=30] (18,-2)%
node[right,font=\scriptsize\sffamily] {Code Ti\textit{k}Z} ;
\end{tikzpicture}
\end{center}
```



4 PixelArt environment

4.1 Usage

The package PixelArtTikz provides an environment to create a PixelArt and add code afterwards.

- The environment is created within TikZ and additional code is passed on to the TikZ environment!
- The additional code will be printed on top of the PixelArt!

```
\begin{EnvPixelArtTikz}[keys]<options tikz>{filename.csv}
%tikz code(s)
\end{EnvPixelArtTikz}
```

Code \LaTeX

The first argument, *optional* and between [...], proposes the keys:

- the key **<Codes>** with the *string* of *simple* codes of the csv file;
- the key **<Colors>** with the *list* of colors;
- the key **<Symbols>** with the *optional list* of alt. symbols for the cells;
- the boolean **<Correction>** to color the PixelArt; default false
- the boolean **<Symb>** to print the symbols; default false
- the boolean **<Border>** to print borders of the cells; default true
- the key **<Style>** to specify the style of the text. default \scriptsize

The second argument, *optional* and between <...>, is for TikZ options to be passed on to the environment which creates the PixelArt.

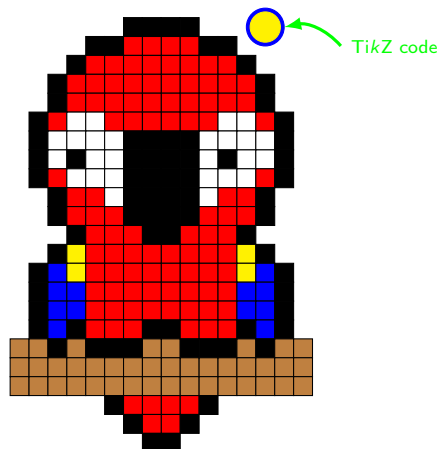
The third argument, *mandatory*, is the filename of the csv.

4.2 Example

The symbols are at the nodes ($c; -l$) where l and c are the row and column of the data in the csv file.

```
\begin{center}
\begin{EnvPixelArtTikz}%
[Codes=123469,Colors={red,brown,yellow,black,blue,white},Correction,Unit=0.25]
{test1.csv}
\filldraw[blue] (14,-1) circle[radius=1] ;
\filldraw[yellow] (14,-1) circle[radius=0.8] ;
\draw[green,very thick,<-,>=latex] (15,-1) to[bend left=30] (18,-2)%
node[right,font=\scriptsize\sffamily] {Ti\texit{k}Z code} ;
\end{EnvPixelArtTikz}
\end{center}
```

Code \LaTeX



5 Macro for *mini*-PixelArt

5.1 Idea

The idea is to propose a macro to insert, without csv file, a small PixelArt with small colors list.

```
\MiniPixelArt[keys]{list of colors}
```

Code \LaTeX

The first argument, *optional* and between [...] proposes the keys :

- the key **<Unit>** for dimension of the cells ; default 0.25em,
- the boolean **<Border>** to print a small border for the cells. default false

The second argument, *mandatory* and between {...}, is the colors of the cells :

- each color is *coded* by a letter :

– R : red	– C : blue	– B : black	– . : white	– O : orange
– G : green	– Y : yellow	– L : gray	– M : maroon	– P : purple

- each linebreak is done by , ;
- the thickness of the borders are 10 % of the unit.

The last argument, *optional* and between <...>, proposes options for the tikz environment.

5.2 Examples

```
\MiniPixelArt{%  
  ..RR..RR..  
  .RRRRRRR..  
  RRRRRRRRRR..  
  RRRRRRRRRR..  
  RRRRRRRRRR..  
  .RRRRRRR..  
  ..RRRRRR..  
  ...RRRR..  
  ....RR....  
}
```



Code \LaTeX

Inline, we can give `\MiniPixelArt[Unit=5mm,Border]{BCGOYG,YLP.BR}<baseline=(current bounding box.center)>` this miniPA.

Inline, we can give



this miniPA.

Code \LaTeX

6 Macro for cutting PixelArt

6.1 Idea

The idea is to offer commands to create *collaborative* PixelArts, to form a *large* image from several small ones (of the same size).

☛ For practical reasons (related to the use of `filecontents`) the file `csv` must end with an empty line (it is created automatically via `filecontents`, and the code uses this specificity).

The available **<keys>** are exactly the same as those in classic displays.

6.2 Global usage

The argument `cutting` can be given in the form :

- **<number of block length>x<number of block col>** to specify the size of the blocks;
- **<number of V blocks>+<number of H blocks>** to specify the number of blocks.

```
\CutPixlArtTikz(*)[keys]<tikz options>{file.csv}{cutting}
%(*) := change layout formatting (A1 or 1.1)
%1 := keys
%2 := tikz options
%3 := csv file
%4 := block size (LxC) or block number (L+C)

\HelpGridPixelArtTikz(*)[scale]{file.csv}{cutting}
%(*) := change layout formatting (A1 or 1.1)
%1 := scale of notice
%2 := csv file
%4 := block size (LxC) or block number (L+C)
```

Code \LaTeX

6.3 Example

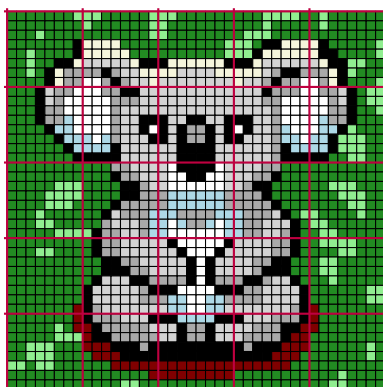
```
\def\listcoulkoala%
{VertForet,Noir,GrisClair,GrisFonce,Beige,Blanc,BleuClair,VertClair,Marron}
```

Code \LaTeX

```
%block with 8x8 size
\HelpGridPixelArtTikz{PAkoala.csv}{8x8}
~~
\PixlArtTikz[Correction,Unit=0.125,Codes=ABCDEFGH,I,Colors={\listcoulkoala},Grid=8x8]{PAkoala.csv}
```

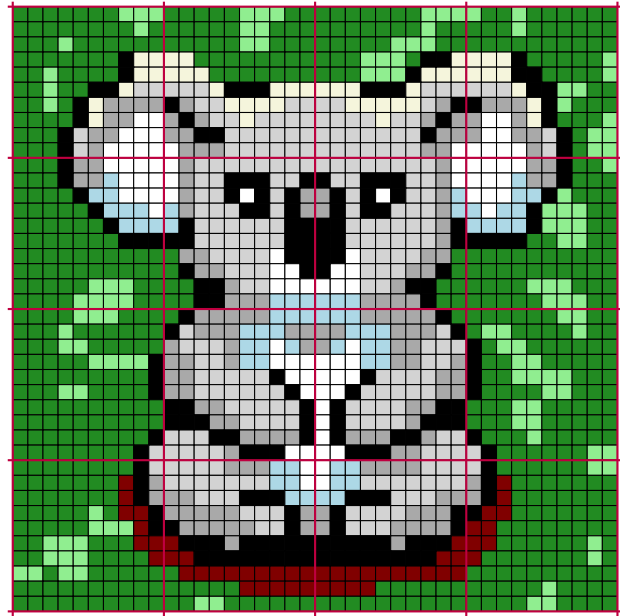
Code \LaTeX

A1	A2	A3	A4	A5
B1	B2	B3	B4	B5
C1	C2	C3	C4	C5
D1	D2	D3	D4	D5
E1	E2	E3	E4	E5



```
%16 blocks (4L 4C)
\HelpGridPixelArtTikz*[2]{PAkoala.csv}-{4+4}
~~
\PixelArtTikz[Correction,Unit=0.2,Codes=ABCDEFGH,Colors={\listcoulkoala},Grid=4+4]{PAkoala.csv}
```

1.1	1.2	1.3	1.4
2.1	2.2	2.3	2.4
3.1	3.2	3.3	3.4
4.1	4.2	4.3	4.4



```
%block with 8x8 size
\CutPixlArtTikz[Unit=0.3,Codes=ABCDEFGH]{PAkoala.csv}{8x8}
```

Sample A1

A	A	A	A	A	A	A	H
A	A	A	A	A	A	A	A
A	A	A	H	A	A	A	A
A	A	A	A	A	A	A	B
A	A	H	A	A	A	A	B
A	A	H	A	A	B	B	E
A	A	H	A	B	E	D	D
A	A	A	A	B	E	D	D

Sample A2

H	H	A	A	A	A	A	H
H	A	A	A	A	A	A	H
A	A	A	A	A	A	A	H
E	E	E	E	A	A	A	A
E	E	E	E	E	A	A	A
C	C	C	C	C	E	B	B
D	D	B	D	C	C	E	E
F	F	D	B	D	C	C	E

Sample A3

H	H	A	A	A	A	A	A
H	A	A	A	A	A	A	A
H	A	A	A	A	A	A	A
A	A	A	A	A	A	A	H
A	A	A	A	A	A	A	H
B	E	E	E	E	E	E	B
E	E	C	C	C	C	E	E
C	C	C	C	C	C	C	C

Sample A4

A	A	A	H	H	H	H	A
A	A	A	H	A	A	A	A
A	H	H	H	A	A	A	A
H	H	A	B	B	E	E	E
H	H	B	E	E	E	E	E
B	B	E	C	C	C	C	C
E	E	E	C	D	B	B	D
E	C	C	D	B	D	D	F

Sample A5

A	H	A	A	A	A	A	A
A	H	A	A	A	A	A	A
A	A	A	A	A	A	A	A
E	B	A	A	A	A	A	H
E	B	B	A	A	A	A	H
C	E	B	B	H	H	A	A
D	D	E	B	H	A	A	A
F	D	E	B	A	A	A	H

Sample B1

A	A	A	B	C	D	D	F
A	A	A	B	C	D	F	F
A	A	A	B	D	D	F	F
A	A	A	B	D	D	G	F
A	A	A	A	B	G	G	F
A	A	A	A	A	B	G	G
A	A	A	A	A	A	B	G
A	A	A	A	A	A	B	B

Sample B2

F	F	D	D	B	B	C	C
F	F	F	D	D	D	C	C
F	F	F	D	C	C	C	C
F	F	F	D	C	C	B	B
F	F	F	D	C	C	B	F
G	F	G	D	C	C	C	B
G	G	G	B	C	C	C	C
B	B	B	B	C	C	C	C

Sample B3

C	C	C	C	C	C	C	C
C	C	C	C	C	C	C	C
C	C	C	C	C	C	C	C
B	C	C	B	B	C	C	B
B	C	B	D	D	B	C	B
B	C	B	D	D	B	C	B
C	C	B	B	B	B	C	C
C	C	B	B	B	B	C	C

Sample B4

C	C	C	B	D	D	D	F
C	C	C	D	D	F	F	F
C	C	C	C	D	F	F	F
B	B	C	C	D	F	F	F
F	B	C	C	D	G	F	F
B	C	C	C	D	G	G	F
C	C	C	C	D	B	G	G
C	C	C	C	D	B	B	B

Sample B5

F	D	D	C	B	A	H	H
F	F	D	D	C	B	A	H
F	F	D	D	B	A	A	H
F	G	D	D	B	A	A	A
F	G	G	B	H	A	A	A
G	G	B	H	H	H	A	A
G	G	B	H	H	H	A	A
B	B	A	A	H	H	A	A

Sample C1

A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	H	H	H	H
A	A	A	A	H	H	H	H
A	A	A	A	H	H	H	A
A	A	A	H	A	A	A	A
A	A	A	H	H	A	A	A
A	A	A	A	A	H	H	H

Sample C2

A	A	A	D	D	C	C	C
A	A	A	B	D	D	C	C
A	A	A	A	B	B	D	C
A	A	A	A	B	B	D	D
A	A	A	B	D	D	D	D
A	A	B	C	D	D	D	G
A	A	B	C	C	C	D	G
H	B	D	D	C	C	D	G

Sample C3

C	F	B	B	B	B	F	C
C	F	F	B	B	B	F	C
C	F	F	F	F	F	F	C
D	G	G	G	G	G	G	D
D	G	G	G	G	G	G	D
G	G	D	D	D	D	G	G
G	F	G	D	D	G	F	G
G	F	F	F	F	F	F	G

Sample C4

C	C	C	D	D	A	A	A
C	C	D	D	B	A	A	A
C	D	B	B	A	A	A	A
D	D	D	B	A	A	A	A
D	D	D	D	B	A	A	A
G	D	D	D	C	B	A	H
G	D	D	C	C	C	B	A
G	D	D	C	C	D	B	A

Sample C5

A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	H	H	H	A	A	A
A	A	A	H	H	H	A	A
A	A	A	A	H	H	A	A
H	A	A	A	A	H	A	A
H	H	A	A	A	A	A	A
A	H	H	A	A	A	A	A

Sample D1

A	A	A	A	A	A	A	A
A	A	A	H	H	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	I

Sample D2

A	B	D	D	C	C	C	C
A	B	D	D	C	C	C	C
A	A	B	B	D	D	C	C
A	A	B	B	B	D	D	C
A	B	C	C	C	B	B	D
B	C	C	C	C	C	D	B
B	C	C	C	C	C	D	D
B	D	C	C	C	C	C	C

Sample D3

C	B	F	F	F	F	F	B
C	C	B	F	F	F	B	C
C	C	C	B	F	B	C	C
C	C	C	B	F	B	C	C
D	D	D	B	F	B	D	D
B	B	F	F	F	F	B	B
D	G	G	F	F	G	G	D
C	G	G	F	F	G	G	C

Sample D4

C	C	C	C	D	D	B	A
C	C	C	C	D	D	B	A
C	C	D	D	B	B	A	A
C	C	D	B	B	B	A	A
D	B	B	D	C	C	B	A
B	D	D	C	C	C	C	B
D	D	D	C	C	C	C	B
C	C	C	C	C	D	B	A

Sample D5

A	H	H	H	H	A	A	A
A	A	A	H	H	A	A	A
A	H	H	A	A	A	A	A
A	H	H	A	A	A	A	A
A	A	H	A	A	A	A	A
A	A	A	A	A	A	H	H
A	A	A	A	A	A	H	H
I	A	A	A	A	A	A	A

Sample E1

A	A	A	A	A	A	A	I
A	A	A	A	H	A	A	I
A	A	A	A	A	H	H	H
A	A	H	H	H	A	A	A
A	A	H	H	H	A	A	A
H	H	A	H	H	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A

Sample E2

B	D	D	D	C	C	C	B
I	B	D	D	D	D	D	C
I	B	B	D	D	D	D	D
I	I	I	B	B	B	D	B
A	I	I	I	B	B	B	B
A	A	A	I	I	I	I	I
A	A	A	A	A	A	A	I
A	A	A	A	H	H	A	A

Sample E3

B	B	G	G	G	G	B	B
C	C	B	D	D	B	C	C
C	C	B	D	D	B	C	C
B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B
I	I	I	I	I	I	I	I
I	I	I	I	I	I	I	I
A	A	A	A	A	A	A	A

Sample E4

B	C	C	C	D	D	D	B
C	C	D	D	D	B	B	I
C	D	D	D	D	B	I	I
B	D	B	B	B	I	I	I
B	B	B	B	I	I	I	A
I	I	I	I	I	I	I	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A

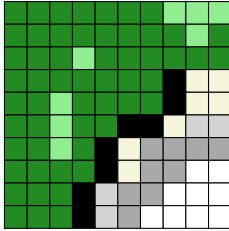
Sample E5

I	A	A	A	A	A	A	A
I	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A
A	A	A	A	A	A	H	A
A	A	A	A	A	A	H	A
A	A	A	A	A	A	A	A
A	A	A	H	A	A	A	A
A	A	H	H	A	A	A	A

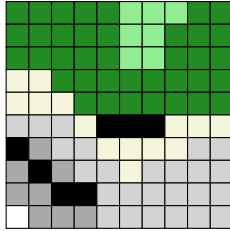
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%16 blocks (4L 4C)
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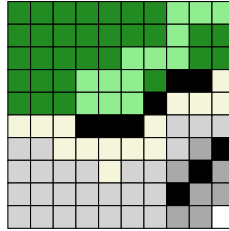
Sample 1.1



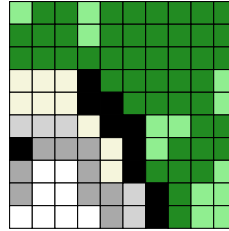
Sample 1.2



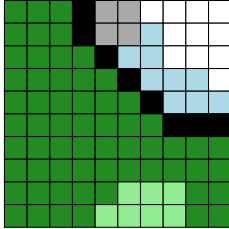
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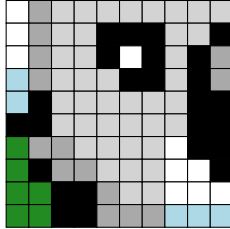
Sample 1.4



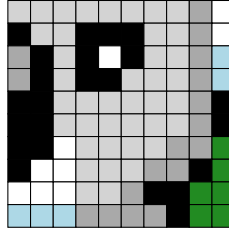
Sample 2.1



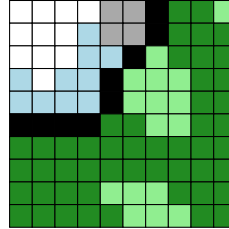
Sample 2.2



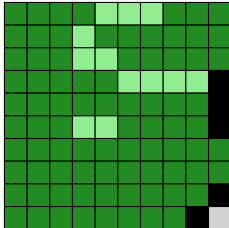
Sample 2.3



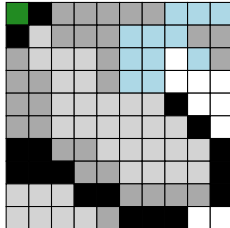
Sample 2.4



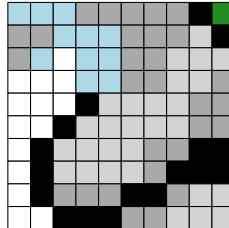
Sample 3.1



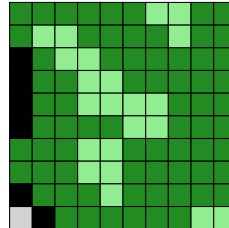
Sample 3.2



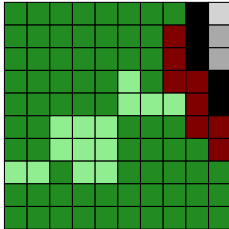
Sample 3.3



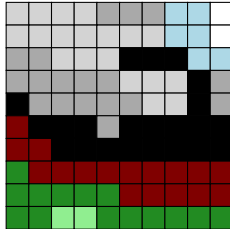
Sample 3.4



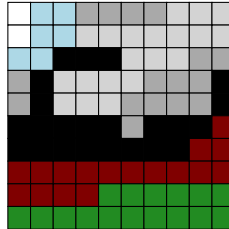
Sample 4.1



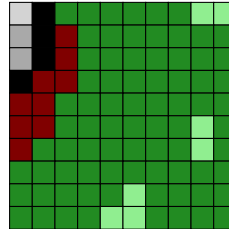
Sample 4.2



Sample 4.3



Sample 4.4



Part III

History

v0.1.3 : Cut PixelArts within several PixelArts
v0.1.2 : *mini*-PixelArts
v0.1.1 : Bugfix with color
v0.1.0 : Initial version