

sim-os-menus

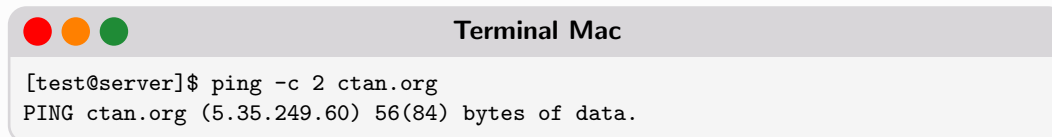
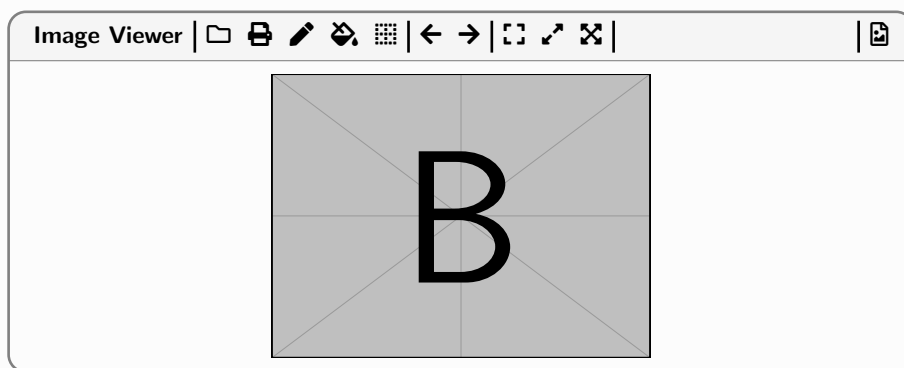
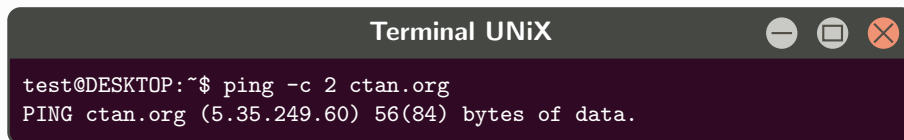
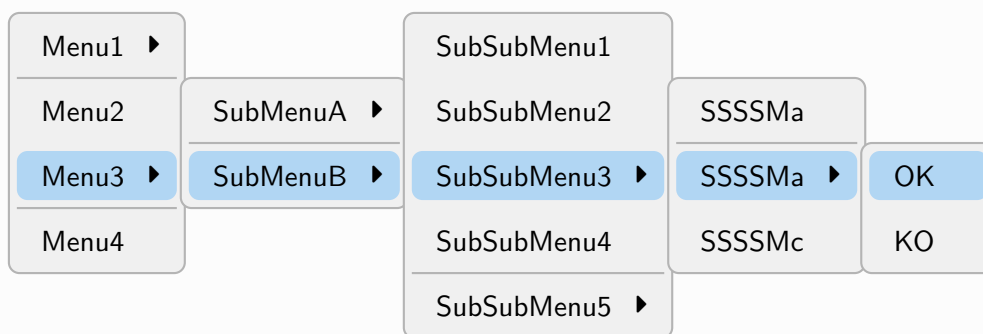
Simulate 'windows', 'terminal' or
'context menu' like in an OS.

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<https://github.com/cpierquet/sim-os-menus>



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1 Introduction

1.1 Description

With this package you can create context menu, or terminal, or doc viewer, like in an OS.
Global styles are mostly fixed, but some customizations are possible.

1.2 Loading

To load the package, simply use :

```
\usepackage{sim-os-menus}
```

The package loads the packages :

- `tikz` (with `calc,positioning`), `pgf`, `pgffor` ;
- `calc`, `fontawesome5` ;
- `simplekv`, `xintexpr`, `listofitems`, `xstring` ;
- `settobox`, `tabularray` ;
- `tcolorbox` (with `breakable,fitting,skins,listings,listingsutf8,hooks`).

1.3 History

0.1.0 : Initial version

2 The macros

2.1 Context menu

In order to create a context menu, the command is :

```
%----contextual menu  
\ContextMenu[keys]{list of items}<tikz options>
```

Optional keys, between [...] are :

- `ColBack` := background color ;
- `ColHL` := highlight color ;
- `Rounded` := boolean for rounded corners (`true` by default) ;
- `Font` := font for the items (`\normalsize\normalfont` by default) ;
- `ColItems` := color(s) for the items (`black` by default) ;
- `MarginV` := vertical margin of the lines (`6pt` by default) ;
- `MarginH` := horizontal margin of the lines (`12pt` by default) ;
- `Arrow` := character for the arrow (`\faCaretRight` by default) ;
- `ListSeps` := list for the possible sep lines (empty or for all the levels !) ;
- `ListIcons` := list for the possible icons (empty or for all the levels/items !) ;
- `ListOffsets` := list for the possible vertical offset of levels (from 2, ...!) (empty or for all the sub-levels !) ;
- `Icons` := boolean for icons (`false` by default) ;
- `Bar` := boolean for small vertical bar with icons (`true` by default) ;
- `Space` := horizontal space between levels (`-0.125` by default).

The mandatory argument, between {...}, is given as :

```
item1A,item1B,... § item2A,item2B,... § ...
```

- if an item ends with `(*)`, this is the beginning of the next level (only one by level !) ;
- if an item ends with `(>)` (before optional `(*)`), an arrow is written at the end of the line.

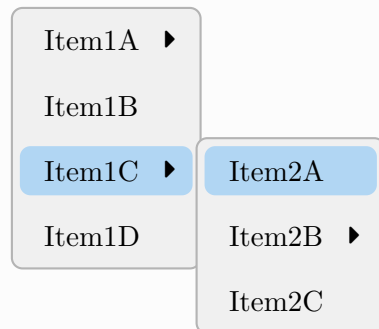
A correct usage of the syntax is necessary for the code !

A few tips, due to `ListIcons`, `ListOffsets` and `ListSeps` keys, which are *sensitive* :

- `ListIcons` must have the same number of elements than the number of levels/items (with possible empty items) ;
- `ListSeps` must have the same number of elements than the number of levels (with possible empty items) ;
- `ListOffsets` must have the same number of elements than the numbers of sub-levels (with 0 si no offset !).

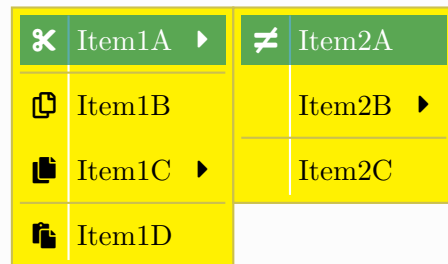
%default style

```
\ContextMenu{Item1A(>),Item1B,Item1C(>)(*),Item1D § Item2A(*),Item2B(>),Item2C}
```

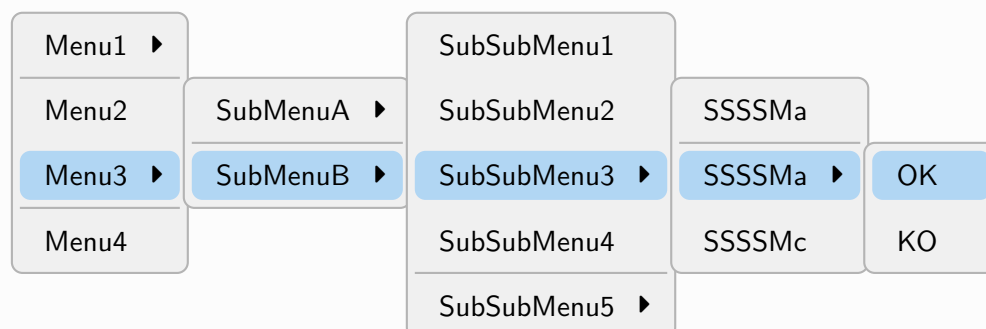


%custom style

```
\ContextMenu[Rounded=false,ColBack=yellow,ColHL=teal,%
ListSeps={1,3/2},ColItems={black/white},Icons,Space=0,%
ListIcons={\faCut,\faIcon[regular]{copy},\faCopy,\faPaste / \faNotEqual}]
{Item1A(>)(*),Item1B,Item1C(>),Item1D § Item2A(*),Item2B(>),Item2C}
```



```
\ContextMenu[Font=\sfamily,ListSeps={1,3/1/4/1/},ListOffsets={1,2,1,0}]{%
Menu1(>),Menu2,Menu3(>)(*),Menu4 §
SubMenuA(>),SubMenuB(>)(* ) §
SubSubMenu1,SubSubMenu2,SubSubMenu3(>)(*),SubSubMenu4,SubSubMenu5(>) §
SSSSMa,SSSSMa(>)(*),SSSSMc §
OK(*),KO
}
```



2.2 Terminal

In order to create a terminal (Win/UNiX/Mac), environments are :

```
%---Windows like terminal
\begin{TermWin}[keys]{tcbox options}
...
\end{TermWin}

%---UNiX like terminal
\begin{TermUnix}[keys]{tcbox options}
...
\end{TermUnix}

%---OSX like terminal
\begin{TermMac}[keys]{tcbox options}
...
\end{TermMac}
```

Optional keys, between [...] are :

- **Title** := title of the terminal (Terminal Win/UNiX/Mac by default) ;
- **Align** := horizontal alignment of the box (center by default) ;
- **Width** := width of the box (\linewidth by default).

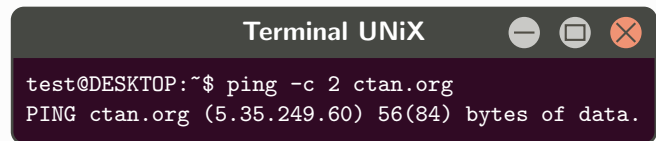
The mandatory argument, between {...}, are options to give to the tcbox.

```
\begin{TermWin}{}
Microsoft Windows [version 10.0.22000.493]
(c) Microsoft Corporation. Tous droits réservés.
C:\Users\test>ping ctan.org
Envoi d'une requête 'ping' sur ctan.org [5.35.249.60] avec 32 octets de données :
Réponse de 5.35.249.60 : octets=32 temps=35 ms TTL=51
Réponse de 5.35.249.60 : octets=32 temps=37 ms TTL=51
Réponse de 5.35.249.60 : octets=32 temps=35 ms TTL=51
Réponse de 5.35.249.60 : octets=32 temps=39 ms TTL=51
Statistiques Ping pour 5.35.249.60:
Paquets : envoyés = 4, reçus = 4, perdus = 0 (perte 0%),
Durée approximative des boucles en millisecondes :
Minimum = 35ms, Maximum = 39ms, Moyenne = 36ms
\end{TermWin}
```

>_ Terminal Win

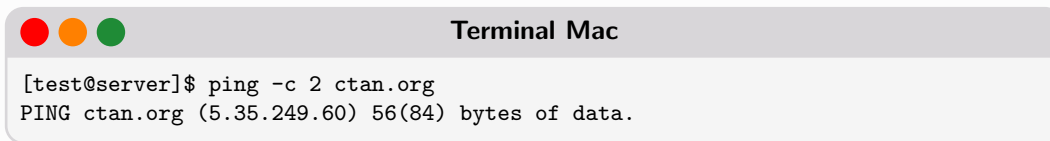
```
Microsoft Windows [version 10.0.22000.493]
(c) Microsoft Corporation. Tous droits réservés.
C:\Users\test>ping ctan.org
Envoi d'une requête 'ping' sur ctan.org [5.35.249.60] avec 32 octets de données :
Réponse de 5.35.249.60 : octets=32 temps=35 ms TTL=51
Réponse de 5.35.249.60 : octets=32 temps=37 ms TTL=51
Réponse de 5.35.249.60 : octets=32 temps=35 ms TTL=51
Réponse de 5.35.249.60 : octets=32 temps=39 ms TTL=51
Statistiques Ping pour 5.35.249.60:
Paquets : envoyés = 4, reçus = 4, perdus = 0 (perte 0%),
Durée approximative des boucles en millisecondes :
Minimum = 35ms, Maximum = 39ms, Moyenne = 36ms
```

```
\begin{TermUnix}[Align=flush right]{hbox}
test@DESKTOP:~$ ping -c 2 ctan.org
PING ctan.org (5.35.249.60) 56(84) bytes of data.
\end{TermUnix}
```



```
\begin{TermMac}[Width=14cm,Align=flush left]{}
```

```
[test@server]$ ping -c 2 ctan.org
PING ctan.org (5.35.249.60) 56(84) bytes of data.
\end{TermMac}
```



2.3 Viewers

In order to create a 'fake' viewer (for pdf or img), environments are :

```
%----PDF Viewer like
\begin{PDFViewer}[keys]{tcbbox options}
....
\end{PDFViewer}

%----Image Viewer like
\begin{IMGViewer}[keys]{tcbbox options}
....
\end{IMGViewer}
```

Optional keys, between [...] are :

- **Title** := title of the terminal (Terminal Windows by default) ;
- **Align** := horizontal alignment of the box (center by default) ;
- **Width** := width of the box (\linewidth by default) ;
- **Halign** := horizontal alignment for the content (left by default) ;
- **Icons** := boolean for the icons (true by default).

The mandatory argument, between {...}, are options to give to the tcbbox.

```
\begin{PDFViewer}{hbox}
\fbbox{\includegraphics[page=35,width=6cm]{ProfLycee-doc.pdf}}%
\fbbox{\includegraphics[page=36,width=6cm]{ProfLycee-doc.pdf}}
\end{PDFViewer}
```

PDF Viewer |

10 Suites récurrentes et « toile »

10.1 Idée

Idée

L'idée est d'obtenir une commande pour tracer (en TikZ) la « toile » permettant d'obtenir – graphiquement – les termes d'une suite récurrente définie par une relation $u_{n+1} = f(u_n)$.

Comme pour les autres commandes TikZ, l'idée est de laisser l'utilisateur définir et créer son environnement TikZ, et d'insérer la commande `\ToileRecurrente` pour afficher la « toile ».

10.2 Commandes

```
\begin{tikzpicture}[options]
...
\ToileRecurrente[clic] [options du tracé] [options supplémentaires des termes]
...
\end{tikzpicture}
```

Clés et options

Plusieurs (arguments) optionnels sont disponibles :

- le premier argument optionnel définit les (Clés) de la commande :
- la clé (Fct) qui définit la fonction f ;
- la clé (Nom) qui est le nom de la suite ;
- la clé (No) qui est l'indice initial ;
- la clé (Post) qui est la valeur du terme initial ;
- la clé (Nb) qui est le nombre de termes à construire ;
- la clé (PostLabel) qui est le placement des labels par rapport à l'axe (Ox) ;
- la clé (DecalLabel) qui correspond au décalage des labels par rapport aux abscisses ;
- la clé (TailleLabel) qui correspond à la taille des labels ;
- un booléen (AffTermes) qui permet d'afficher les termes de la suite sur l'axe (Ox) ;
- la deuxième argument optionnel concerne les (options) du tracé de l'escalier en langage TikZ ;
- le troisième argument optionnel concerne les (options) du tracé des termes en langage TikZ ;

Information(s)

Il est à noter que le code n'est pas autonome, et doit être intégré dans un environnement `\tikzpicture`.

L'utilisateur est donc libre de définir ses styles pour l'affichage des éléments de son graphique, et il est libre également de rajouter des éléments en plus du tracé de la toile.

La macro ne permet – pour le moment – ni de tracer la bissectrice, ni de tracer la courbe...

En effet, il y a trop d'options pour ces deux éléments, et l'idée est quand même de conserver une commande simple. Donc l'utilisateur se chargera de tracer et de personnaliser sa courbe et sa bissectrice.

10.3 Exemples

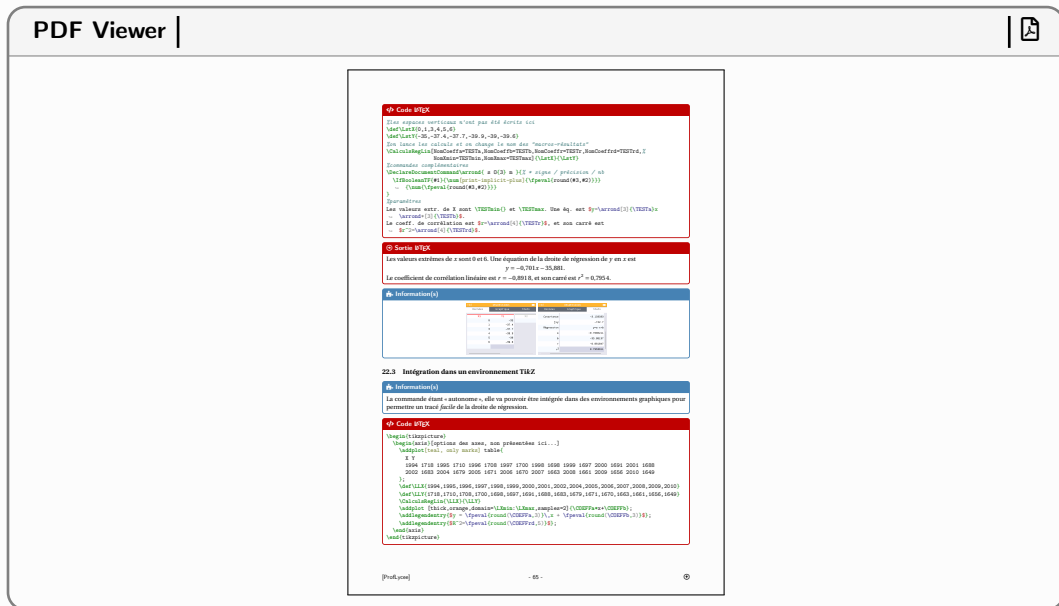
Information(s)

On va tracer la toile des 4 premiers termes de la suite récurrente $\begin{cases} u_1 = 1 \\ u_{n+1} = \sqrt{3u_n} + 1 \end{cases}$ pour tout entier $n \geq 1$.

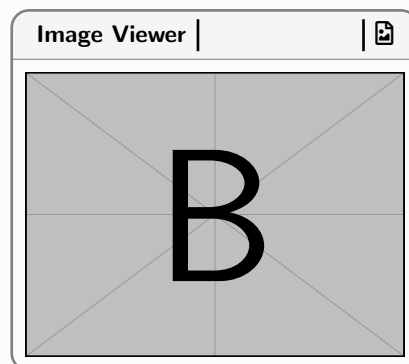
Code BTeX

```
\code tikz
\def{x1}{1.5cm}\def{y1}{5cm}
\def{u1a}{0}\def{u1a10}{0}\def{u1a11}{0}\def{u1a12}{0.5}
\def{u1a13}{0}\def{u1a14}{0}\def{u1a15}{0}\def{u1a16}{0.5}
\def{u1a17}{0}\def{u1a18}{0}\def{u1a19}{0}\def{u1a20}{0.5}
\def{u1a21}{0}\def{u1a22}{0}\def{u1a23}{0}\def{u1a24}{0.5}
\def{u1a25}{0}\def{u1a26}{0}\def{u1a27}{0}\def{u1a28}{0.5}
\def{u1a29}{0}\def{u1a30}{0}\def{u1a31}{0}\def{u1a32}{0.5}
\def{u1a33}{0}\def{u1a34}{0}\def{u1a35}{0}\def{u1a36}{0.5}
\def{u1a37}{0}\def{u1a38}{0}\def{u1a39}{0}\def{u1a40}{0.5}
\def{u1a41}{0}\def{u1a42}{0}\def{u1a43}{0}\def{u1a44}{0.5}
\def{u1a45}{0}\def{u1a46}{0}\def{u1a47}{0}\def{u1a48}{0.5}
\def{u1a49}{0}\def{u1a50}{0}\def{u1a51}{0}\def{u1a52}{0.5}
\def{u1a53}{0}\def{u1a54}{0}\def{u1a55}{0}\def{u1a56}{0.5}
\def{u1a57}{0}\def{u1a58}{0}\def{u1a59}{0}\def{u1a60}{0.5}
\def{u1a61}{0}\def{u1a62}{0}\def{u1a63}{0}\def{u1a64}{0.5}
\def{u1a65}{0}\def{u1a66}{0}\def{u1a67}{0}\def{u1a68}{0.5}
\def{u1a69}{0}\def{u1a70}{0}\def{u1a71}{0}\def{u1a72}{0.5}
\def{u1a73}{0}\def{u1a74}{0}\def{u1a75}{0}\def{u1a76}{0.5}
\def{u1a77}{0}\def{u1a78}{0}\def{u1a79}{0}\def{u1a80}{0.5}
\def{u1a81}{0}\def{u1a82}{0}\def{u1a83}{0}\def{u1a84}{0.5}
\def{u1a85}{0}\def{u1a86}{0}\def{u1a87}{0}\def{u1a88}{0.5}
\def{u1a89}{0}\def{u1a90}{0}\def{u1a91}{0}\def{u1a92}{0.5}
\def{u1a93}{0}\def{u1a94}{0}\def{u1a95}{0}\def{u1a96}{0.5}
\def{u1a97}{0}\def{u1a98}{0}\def{u1a99}{0}\def{u1a100}{0.5}
\def{u1a101}{0}\def{u1a102}{0}\def{u1a103}{0}\def{u1a104}{0.5}
\def{u1a105}{0}\def{u1a106}{0}\def{u1a107}{0}\def{u1a108}{0.5}
\def{u1a109}{0}\def{u1a110}{0}\def{u1a111}{0}\def{u1a112}{0.5}
\def{u1a113}{0}\def{u1a114}{0}\def{u1a115}{0}\def{u1a116}{0.5}
\def{u1a117}{0}\def{u1a118}{0}\def{u1a119}{0}\def{u1a120}{0.5}
\def{u1a121}{0}\def{u1a122}{0}\def{u1a123}{0}\def{u1a124}{0.5}
\def{u1a125}{0}\def{u1a126}{0}\def{u1a127}{0}\def{u1a128}{0.5}
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\def{u1a161}{0}\def{u1a162}{0}\def{u1a163}{0}\def{u1a164}{0.5}
\def{u1a165}{0}\def{u1a166}{0}\def{u1a167}{0}\def{u1a168}{0.5}
\def{u1a169}{0}\def{u1a170}{0}\def{u1a171}{0}\def{u1a172}{0.5}
\def{u1a173}{0}\def{u1a174}{0}\def{u1a175}{0}\def{u1a176}{0.5}
\def{u1a177}{0}\def{u1a178}{0}\def{u1a179}{0}\def{u1a180}{0.5}
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\def{u1a193}{0}\def{u1a194}{0}\def{u1a195}{0}\def{u1a196}{0.5}
\def{u1a197}{0}\def{u1a198}{0}\def{u1a199}{0}\def{u1a200}{0.5}
\def{u1a201}{0}\def{u1a202}{0}\def{u1a203}{0}\def{u1a204}{0.5}
\def{u1a205}{0}\def{u1a206}{0}\def{u1a207}{0}\def{u1a208}{0.5}
\def{u1a209}{0}\def{u1a210}{0}\def{u1a211}{0}\def{u1a212}{0.5}
\def{u1a213}{0}\def{u1a214}{0}\def{u1a215}{0}\def{u1a216}{0.5}
\def{u1a217}{0}\def{u1a218}{0}\def{u1a219}{0}\def{u1a220}{0.5}
\def{u1a221}{0}\def{u1a222}{0}\def{u1a223}{0}\def{u1a224}{0.5}
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\def{u1a229}{0}\def{u1a230}{0}\def{u1a231}{0}\def{u1a232}{0.5}
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\def{u1a241}{0}\def{u1a242}{0}\def{u1a243}{0}\def{u1a244}{0.5}
\def{u1a245}{0}\def{u1a246}{0}\def{u1a247}{0}\def{u1a248}{0.5}
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\def{u1a281}{0}\def{u1a282}{0}\def{u1a283}{0}\def{u1a284}{0.5}
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