\texttt{drawstack.sty}: Draw execution stack easily in \LaTeX

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\texttt{drawstack} is a \LaTeX{} package to easily draw execution stack (typically to illustrate assembly language notions), written on top of TikZ. This file serves as an example of usage of \texttt{drawstack}, and serves as documentation for this package. Read the source code and comments to see how to use it.

1 Minimalistic example

\begin{verbatim}
  ...  
  First cell
  Second cell
  ...  
\end{verbatim}
2  Grouping cells into stack frames

Some stack frame

- First cell
- Second cell
- Not interesting

Another stack frame

- Next stack frame
- Next stack frame

3  Stack and Base pointers

fonction f

- loc2: -8(%ebp)
- loc1: -4(%ebp)
- Sauvegarde %ebp: %ebp
- @ retour: 4(%ebp)

fonction main

- ...: 8(%ebp)

...
4 Padding

...  
above padding  
nothing here  
below padding

5 Below/Above stack pointer

...  
Top  
Below top  
Above bottom  
Bottom  
...
6 Highlighting some cell

<table>
<thead>
<tr>
<th>...</th>
<th>Yes, this one!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uninteresting cell</td>
<td></td>
</tr>
<tr>
<td>Interesting cell</td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
</tr>
</tbody>
</table>

7 Structures without a stack structure

```
A's vtable
@Object.equals()
@code A.m()
@code A.p()

B's vtable
@Object.equals()
@code A.m()
@code B.p()
@code B.q()
```

Object vtable
8 Structures and stack together

- Stack
  - p3
  - p2
  - p1
  - @P3D.diag
  - @Object.equals
  - 3(GB)
  - @P2D.diag
  - @Object.equals
  - 1(GB)
  - null

Heap
- z=2,5
- y=2,5
- x=2,5
- y=1
- x=1

9 Using tikzpicture instead of drawstack

...
10 Changing style

11 Example: Computing Factorial