Example 1: Plain TEX \bordermatrix

```
\[
  \bordermatrix{
      & i & j & k \cr
    1 & a & b & c \cr
    2 & d & e & f
  }
\]
```

$$\bordermatrix{ & i & j & k \cr 1 & a & b & c \cr 2 & d & e & f }$$

Example 2: LATEX 2ε array environment

```
\[
  \left[\begin{array}{lcr}
    a_1     &   b_1   &     c_1 \\
    a_{11}  & b_{11}  &  c_{11} \\
    a_{111} & b_{111} & c_{111}
  \end{array}\right]
\]
```

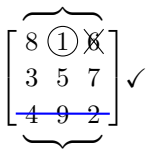
$$\left[\begin{array}{lcr} a_1 & b_1 & c_1 \\ a_{11} & b_{11} & c_{11} \\ a_{111} & b_{111} & c_{111} \end{array}\right]$$

Example 3: TikZ matrix, annotations on matrix

```
% \usepackage{amssymb}
% \usepackage{tikz}
% \usetikzlibrary{matrix, shapes.misc}
\tikzset{
  m common/.style={draw, inner sep=1pt},
  mo/.style={m common, circle},
  mx/.style={m common, cross out}
}

\begin{tikzpicture}[baseline=(magic-2-1.base)]
  \matrix (magic) [matrix of nodes,
    left delimiter={[}, right delimiter={]},
    above delimiter=\{, below delimiter=\}] {
    8 & |[mo]|1 & |[mx]|6 \\
    3 &       5 &       7 \\
    4 &       9 &       2 \\
  };

  \draw[thick, blue] (magic-3-1.west) -- (magic-3-3.east);
  \node[xshift=10pt] at (magic-2-3.east) {$\checkmark$};
\end{tikzpicture}
```



Example 4: `nicematrix`, add above and below delimiters

```
% \usepackage{nicematrix}
% \usetikzlibrary{calc}
\[
  \begin{pNiceArray}{CCC}[last-col, first-row, create-extra-nodes,
      code-for-first-row=\phantomDepth{10pt},
      code-after={
        \drawAboveDelimiter{\lbrace}{1-1}{1-3}{yshift=.7em, blue}
        \drawBelowDelimiter{\rbrace}{3-1}{3-3}{yshift=-.7em, teal}
      }]
    0 & 0 & 0 &     \\  % \\[10pt] does not work,
    1 & 2 & 3 & L_1 \\  % see `texdoc nicematrix`, sec. 6
    4 & 5 & 6 & L_2 \\
    7 & 8 & 9 & L_3
  \end{pNiceArray}
\]
```

$$\overbrace{\begin{matrix} 0 & 0 & 0 \end{matrix}}^{\text{blue}}$$
$$\underbrace{\begin{pmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{pmatrix}}_{\text{teal}} \begin{matrix} L_1 \\ L_2 \\ L_3 \end{matrix}$$