Example 1: Use `alignat`, two groups of formulae

```
1  \begin{alignat*}{2}
2    &\key{app} (\lambda C, o) &&= \key{inst} (C, o) \\
      &\key{app} ([k], o)       &&= [k\ o]
4  \end{alignat*}

6  \begin{alignat*}{2}
      &\key{first} (n, m)   &&= n         \\
8    &\key{first} ([k])    &&= [k\ .1] \\
      &\key{second} (n, m)  &&= m         \\
10   &\key{second} ([k])   &&= [k\ .2]
   \end{alignat*}
```

$$\mathsf{app}(\lambda C, o) = \mathsf{inst}(C, o)$$
$$\mathsf{app}([k], o) \ = [k\ o]$$

$$\mathsf{first}(n, m) \quad = n$$
$$\mathsf{first}([k]) \qquad = [k\ .1]$$
$$\mathsf{second}(n, m) = m$$
$$\mathsf{second}([k]) \quad = [k\ .2]$$

1

Example 2: Use alignat, three groups of formulae

```latex
1 \def\key#1{\textsf{#1}}
2 \def\vor{\mathrel{\,|\,}}
  \def\wideOr{\mathrel{\,\,|\,}}
4 \def\note#1{\text{#1}}

6 \begin{alignat*}{4}
    &\Gamma, \Delta &\quad&::=&\quad&
8       () \vor \Gamma, x : A &\mskip 60mu& \note{Contexts}
        ↪  \\[10pt]
    & t, u, A, B     &&::=      &&
10      x \vor \lambda x : A. t \vor t\ u \vor (x : A) \to B
                          && \note{Pi-types}     \\
12  &                &&\wideOr &&
        (t, u) \vor t.1 \vor t.2 \vor (x : A) \times B
14                        && \note{Sigma-types} \\
    &                &&\wideOr &&
16      \key{0} \vor \key{s}\ u \vor \key{natrec}\ t\ u \vor \key{N}
                        && \note{Natural numbers}
18 \end{alignat*}
```

$$
\begin{aligned}
\Gamma, \Delta \quad &::= \quad () \mid \Gamma, x : A && \text{Contexts} \\[6pt]
t, u, A, B \quad &::= \quad x \mid \lambda x : A.t \mid t\ u \mid (x : A) \to B && \text{Pi-types} \\
& \quad \mid \ (t, u) \mid t.1 \mid t.2 \mid (x : A) \times B && \text{Sigma-types} \\
& \quad \mid \ 0 \mid \mathsf{s}\ u \mid \mathsf{natrec}\ t\ u \mid \mathsf{N} && \text{Natural numbers}
\end{aligned}
$$

Example 3: Use `tabu`, 4 columns

```latex
\noindent
\setlength{\tabcolsep}{0pt}
\begin{tabularx}{\linewidth}{>{$}l<{$} >{$\quad}c<{\quad$}
  >{$}X<{$} l}
  \Gamma, \Delta & ::= &
    () \vor \Gamma, x : A & Contexts              \\[10pt]
  t, u, A, B     & ::= &
    x \vor \lambda x : A. t \vor t\ u \vor (x : A) \to B
                   & \note{Pi-types}      \\
                 &\vor &
    (t, u) \vor t.1 \vor t.2 \vor (x : A) \times B
                   & \note{Sigma-types} \\
                 &\vor &
    \key{0} \vor \key{s}\ u \vor \key{natrec}\ t\ u \vor \key{N}
                   & \note{Natural numbers}
\end{tabularx}
```

$$\Gamma, \Delta \qquad ::= \quad () \mid \Gamma, x : A \qquad\qquad\qquad\qquad \text{Contexts}$$

$$
\begin{aligned}
t, u, A, B \quad ::=&\quad x \mid \lambda x : A.t \mid t\,u \mid (x:A) \to B && \text{Pi-types}\\
\mid&\quad (t, u) \mid t.1 \mid t.2 \mid (x : A) \times B && \text{Sigma-types}\\
\mid&\quad \mathsf{0} \mid \mathsf{s}\,u \mid \mathsf{natrec}\,t\,u \mid \mathsf{N} && \text{Natural numbers}
\end{aligned}
$$