tabularray로 표 그리기

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목차

도입

혜성처럼 등장한...

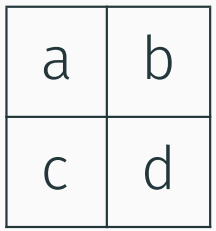
- Overleaf users must download from `https://ctan.org/tex-archive/macros/latex/contrib/tabularray` and put it in the project directory.
- `sudo tlmgr update tabularray`
- 2022A 기준

표를 그리자

- 가로선 및 세로선
- 색칠하기
- 정렬하기
- …

입력	출력
1	5
2	7
3	9

간단한 표




```
\begin{tblr}{|l|l|}
  \hline
  a & b \\
  \hline
  c & d \\
  \hline
\end{tblr}
```

기본

열 정렬

abc	A B C	C
α	3.14	`text`

```
\begin{tblr}{|r|cl}
  \hline
  abc & {A\\B\\C} & C \\
  \hline
  $\alpha$ & 3.14 & \texttt{text} \\
  \hline
\end{tblr}
```

New Interface

abc	A B C	C
α	3.14	text

```
\begin{tblr}{
  hlines,
  vline{1,2} = {solid},
  colspec = {rcl},
}
  abc & {A\\B\\C} & C \\
  $\alpha$ & 3.14 & \texttt{text} \\
\end{tblr}
```

열 타입

정렬, 너비, 비율, 수식(!)까지

a_i	b
	text
x_i	text

```
\begin{tblr}{
  vlines, hlines,
  colspec = {Q[$]Q[l,4em]},
}
a_i &   b   \\
    & text  \\
x_i & text  \\
\end{tblr}
```

행 정렬 i

- **h** text in the head of the cell
- **m** text in the middle
- **f** text in the foot of the cell
- **b** bottom line in the middle
- **t** top line in the middle

```
\begin{tblr}{
  Q[h,4em]Q[t,4em]Q[m,4em]Q[b,4em]Q[f,4em]
}
\begin{tblr}{h{4em}t{4em}m{4em}b{4em}f{4em}}
```

행 정렬 ii

row head	top line	middle	line bottom	row foot
row head	top line	11 22 mid 44 55	line bottom	row foot

행 정렬 iii

```
% \begin{tblr}{Q[h,4em]Q[t,4em]Q[m,4em]Q[b,4em]Q[f,4em]}
\begin{tblr}{h{4em}t{4em}m{4em}b{4em}f{4em}}
  \hline
  {row\\head} & {top\\line} & {middle} & {line\\bottom} & {row\\
      foot} \\
  \hline
  {row\\head} & {top\\line} & {11\\22\\mid\\44\\55} & {line\\
      bottom} & {row\\foot} \\
  \hline
\end{tblr}
```

행 타입

\hline까지 한 번에

a_i	b
	text
x_i	text

```
\begin{tblr}{
  colspec = {Q[$]Q[l,4em]},
  rowspec = {|[2pt]Q[m]|[dotted]Q[b]|[
      dashed]Q[t]|},
}
  a_i &   b   \\
      & text  \\
  x_i & text  \\
\end{tblr}
```

verbatim

hello world

foo bar

```
\begin{tblr}{verb}
  \verb/hello/ & \verb/world/ \\
  \verb/foo/ & \verb/bar/ \\
\end{tblr}
```

심화

열 너비 비율과 행 병합 i

- X type column
- `width=\linewidth`이 기본값

Category	Operation	Description
Arithmetic Operations	Addition	$C \leftarrow A + B$
	Subtraction	$C \leftarrow A - B$
Bitwise Boolean Operations	NAND	$C \leftarrow \neg(A \,\&\, B)$
	NOR	$C \leftarrow \neg(A \mid B)$
	XNOR	$C \leftarrow A \equiv B$
	AND	$C \leftarrow A \,\&\, B$
	OR	$C \leftarrow A \mid B$
	XOR	$C \leftarrow A \oplus B$
Shifting Operations	Logical Right Shift	$C \leftarrow A \gg 1$
	Arithmetic Right Shift	$C \leftarrow A \ggg 1$
	Logical Left Shift	$C \leftarrow A \ll 1$
	Arithmetic Left Shift	$C \leftarrow A \lll 1$

열 너비 비율과 행 병합 ii

```
\begin{tblr}{colspec={X[4,c]X[5,l]X[3,l]},rulesep=.8pt}
  \hline[1pt]
  Category & Operation & Description \\
  \hline
  \hline
  \SetCell[r=2]{m} {Arithmetic\\Operations} & Addition & $C \
      asgn A + B$ \\
                                & Subtraction & $C \asgn A - B$ \\
  \hline
  \SetCell[r=6]{m} {Bitwise\\Boolean\\Operations} & NAND & $C \
      asgn \neg(A \mathbin{\&} B)$ \\
                                & NOR & $C \asgn \neg(A \mathbin
                                    {|} B)$ \\
                                & XNOR & $C \asgn A \mathbin{\
                                    equiv} B$ \\
```

열 너비 비율과 행 병합 iii

```
                                & AND & $C \asgn A \mathbin{\&} B$
                                    \\
                                & OR & $C \asgn A \mathbin{|} B$
                                   \\
                                & XOR & $C \asgn A \oplus B$ \\
  \hline
  \SetCell[r=4]{m} {Shifting\\Operations} & Logical Right Shift
      & $C \asgn A \gg 1$ \\
                                & Arithmetic Right Shift & $C \asgn
                                  A \ggg 1$ \\
                                & Logical Left Shift & $C \asgn A \
                                  ll 1$ \\
                                & Arithmetic Left Shift & $C \asgn A
                                   \lll 1$ \\
  \hline[1pt]
\end{tblr}
```

열 너비 비율과 행 병합 iv

문장과 정렬 i

`baseline`

Lorem ipsum $\begin{array}{c}\\ \hline \text{dolor} \\ \hline \text{sit} \\ \hline \text{amet,} \\ \hline \end{array}$ consectetur $\begin{array}{c} \hline \text{adipiscing} \\ \hline \text{elit.} \\ \hline \end{array}$

문장과 정렬 ii

```
Lorem ipsum
\begin{tblr}[t]{hlines, colspec={c}, baseline=T}
dolor \\ sit \\ amet,
\end{tblr}
consectetur
\begin{tblr}[b]{hlines, colspec={c}, baseline=B}
adipiscing \\ elit. \\
\end{tblr}
```

구분선 서식

`vline`, `hline`, `vlines` & `hlines`

A	B	C	D	E
a	b	c	d	e
0	1	2	3	4

```
\begin{tblr}{%
  hlines = {1}{-}{solid},
  vline{1,Z} = {1pt},
  vline{X} = {dashed},
}
  A & B & C & D & E \\
  a & b & c & d & e \\
  0 & 1 & 2 & 3 & 4 \\
\end{tblr}
```

특별한 구분선 i

참고: Tabularray[†] 매뉴얼 2.2 Hlines and Vlines

Equation :	CH_4 +	$2\,O_2$ ⟶	CO_2 +	$2\,H_2O$
Initial	n_1	n_2	0	0
Final	$n_1 - x$	$n_2 - 2x$	x	$2x$

특별한 구분선 ii

```
% \usepackage{chemmacros} in the preamble
\begin{tblr}{%
  vlines, hlines,
  colspec = {lX[c]X[c]X[c]X[c]},
  vline{2} = {1}{ text = \clap{:} },
  vline{3} = {1}{ text = \clap{\ch{+}} },
  vline{4} = {1}{ text = \clap{\ch{->}} },
  vline{5} = {1}{ text = \clap{\ch{+}} },
}
  Equation & \ch{CH4} & \ch{2 O2} & \ch{CO2} & \ch{2 H2O} \\
  Initial  & $n_1$    & $n_2$     & 0        & 0 \\
  Final    & $n_1-x$  & $n_2-2x$  & $x$      & $2x$ \\
\end{tblr}
```

[†]버전 2022A (2022-03-01)

표 명령어 i

- `\NewTableCommand`를 사용하여 표 안에서 명령 사용 가능
- `\NewTableCommand` 안에는 텍스트 입력 불가
- `expand` 옵션으로 타협

참고: `Tabularray`[†] 매뉴얼 3.2.3 Expand Macros First, 3.6 New Table Commands

1	Beta	Gamma	Delta
2	Beta	Gamma	Delta
3	Beta	Gamma	Delta

표 명령어 ii

```
% \NewTableCommand\SC{\SetCell{bg=red8}} in the preamble
\begin{tblr}{%
    hlines, vlines,
    cell{1}{2-4} = {bg=gray9},
}
  \SC 1 & Beta & Gamma & Delta    \\
  2 & Beta & Gamma & \SC Delta    \\
  3 & Beta & \SC Gamma & Delta    \\
\end{tblr}
```

[†]버전 2022A (2022-03-01)

표 환경 i

- `\NewTblrEnviron`를 사용하여 새로운 표 환경 정의 가능
- 내부 설정 (inner specifications)
- 외부 설정 (outer specifications)

참고: `Tabularray`† 매뉴얼 **3.1 Inner Specifications, 3.2 Outer Specifications, 3.4 New Tabularray Environments, 3.5 New General Environments**

Text

Alpha	Beta	Gamma	Delta
Epsilon	Zeta	Eta	Theta
Iota	Kappa	Lambda	Mu

Text

표 환경 ii

```
\NewTblrEnviron{mytblr}
\SetTblrInner[mytblr]{hlines,vlines}
\SetTblrOuter[mytblr]{baseline=B}
  Text \begin{mytblr}{cccc}
  Alpha   & Beta  & Gamma  & Delta \\
  Epsilon & Zeta  & Eta    & Theta \\
  Iota    & Kappa & Lambda & Mu    \\
 \end{mytblr} Text
```

[†]버전 2022A (2022-03-01)

siunitx + booktabs i

V_s [mV]	V_R [mV]	V_D [mV]	I_D [μA]
100.47	0.035	100.002	0.035
199.67	0.144	199.46	0.145
296.41	0.974	295.17	0.983
400.26	7.470	392.57	7.539
500.13	36.904	463.48	37.247
602.24	94.535	507.65	95.413
703.92	168.73	535.10	170.30
801.07	248.07	552.89	250.37
899.73	332.25	567.62	335.34
1008.14	428.76	579.35	432.74
1104.33	514.13	589.49	518.90
1200.23	602.45	597.38	608.04

siunitx + booktabs ii

```
% \UseTblrLibrary{booktabs}
% \UseTblrLibrary{siunitx} in the preamble
\begin{tblr}{S[table-format=4.2]S[table-format=3.3]S[table-
    format=3.3]S[table-format=3.3]}
  \toprule
  {{{$V_s$ [mV]}}} & {{{$V_R$ [mV]}}} & {{{$V_D$ [mV]}}} & {{{
      $I_D$ [µA]}}} \\
  \midrule
  100.47    & 0.035      & 100.002    & 0.035\\
  199.67    & 0.144      & 199.46     & 0.145\\
  296.41     & 0.974      & 295.17     & 0.983\\
  400.26     & 7.470      & 392.57     & 7.539\\
  500.13     & 36.904     & 463.48     & 37.247\\
  602.24     & 94.535     & 507.65     & 95.413\\
  703.92     & 168.73     & 535.10     & 170.30\\
  801.07     & 248.07     & 552.89     & 250.37\\
```

siunitx + booktabs iii

```
  899.73     & 332.25     & 567.62     & 335.34\\
  1008.14    & 428.76     & 579.35     & 432.74\\
  1104.33    & 514.13     & 589.49     & 518.90\\
  1200.23    & 602.45     & 597.38     & 608.04\\
  \bottomrule
\end{tblr}
```

이외에도 다양하게 표를 꾸밀 수 있으니 매뉴얼을 참고해주세요.

감사합니다.