

tabularray로 표 그리기

이재호

2022년 5월 17일

목차

도입

기본

심화

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

a	b
c	d

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

기본

열 정렬

abc	가 나 다	C
α	3.14	text

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

New Interface

abc	가 나 다	C
α	3.14	text

```
\begin{tblr}{
  hlines,
  vline{1,2} = {solid},
  colspec = {rcl},
}
  abc & 가나다{\!\!\!\!} & 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[1,4em]},  
}  
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}}
```

행정렬 ii

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

행정렬 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[1,4em]},  
  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	$C \leftarrow \neg(A B)$
	XNOR	$C \leftarrow A \equiv B$
	AND	$C \leftarrow A \& B$
	OR	$C \leftarrow A B$
	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 dolor consectetur adipiscing
elit.
sit
amet,

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	+	2O_2	\longrightarrow	CO_2	+	$2\text{H}_2\text{O}$
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: `Tabulararray`[†] 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

	Alpha	Beta	Gamma	Delta	
	Epsilon	Zeta	Eta	Theta	
Text	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 [μ A]
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.