The ot-tableau package

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1 Introduction

The ot-tableau package makes it easy to create beautiful optimality-theoretic tableaux. The LaTeX source is visually very similar to a formatted tableau, which makes working with the source code painless (well, less painful). A variety of stylistic variants can be modified to suit personal taste.

/stap/	*Complex	Anchor-IO	Contiguity-IO
a. stap	*!		
☞ b. sap			*
c. tap		*!	

```
\begin{tableau}{c:c|c}
\inp{\ips{stap}}        \const{*Complex} \const{Anchor-IO} \const{Contiguity-IO}
\cand{stap}             \vio{*!}         \vio{}            \vio{}
\cand[\Optimal]{sap}    \vio{}           \vio{}            \vio{*}
\cand{tap}              \vio{}           \vio{*!}          \vio{}
\end{tableau}
```

Pertinent features:

- The package introduces the `tableau` environment.
- Indicate solid or dashed lines between constraints with `\begin{tableau}{c:c|c}`. A solid line is indicated by a pipe, a dashed line with a colon.
- The input is specified with the `\inp` command. (Here the `\ips` macro is being used to render the text using TIPA and put it within slashes.)
- Indicate the constraints with the `\const` command.
- Add a candidate with the `\cand` command. An optional argument can be used to annotate the candidate (e.g., to use ☜, `\cand[\HandLeft]`)
- Violations are indicated with the `\vio` macro. You need to include these commands even when there are no violations.
- Use of whitespace is optional. Keeping the columns aligned in the source code, though, makes the tableau much easier to edit.

Very large tableaux are not much more difficult—for instance in Table 1.

Input: /RED, ulampoy/	RED=σ	DEP-IO	MAX-IO	ONSET	NO-CODA	ALIGN-RED-L	MAX-BR
a. ☞ u-la-lam.poy				*	**	u	mpoy
b. u-lam-lam.poy				*	***!	u	poy
c. u-u.lam.poy				**!	**		lampoy
d. ul-u.lam.poy				**!	***		ampoy
e. la-lam.poy			*!		**		mpoy
f. tu-tu-lam.poy		*!			**		lampoy
g. u.l-u.lam.poy	l!				**		lampoy
h. u-lam.poy-lam.poy	p!oy				****	u	

Table 1: After Kager (1999:229).

2 Parameters

2.1 Changing formats

The default `\cand` and `\const` commands typeset the argument with TIPA's `\textipa` command, and small caps, respectively. Though this is generally appropriate, there are also commands `\cand*` and `\const*` that apply no formatting. The following code and tableau illustrate this.

Illustration	C1	C2
a. Option 1	∗!	
☞ b. Option 2		∗

```
\begin{tableau}{c|c}
\inp{Illustration}            \const{C1}  \const*{C2}
\cand*{Option 1}              \vio{*!}    \vio{}
\cand*[\HandRight]{Option 2}  \vio{}      \vio{*}
\end{tableau}
```

Usage of `\const*` is illustrated in the next section.

If you are using Unicode input for your phonetic symbols, use the package option `notipa` to disable TIPA.

2.2 Controlling cell shading

There are two systems in use for shading OT tableaux. One system is to shade cells in a row after the crucial violation. The other system is to shade an entire column, if the associate constraint generates no crucial violations.

ot-tableau will do cell-shading automatically with the `shadedcells` package option.[1] This tableau...

/ba/	*VcdObs	Ident-IO-[nas]
a. ba	∗!	
☞ b. pa		∗

...is produced by the following code...

```
\ShadingOn
\begin{tableau}{c|c}
\inp{\ips{ba}}         \const{*VcdObs}  \const*{\textsc{Ident-IO}-[nas]}
\cand{ba}              \vio{*!}         \vio{}
\cand[\HandRight]{pa}  \vio{}           \vio{*}
\end{tableau}
```

The alternative is to shade an entire column by using 's' instead of 'c' in the argument to the `tableau` environment:

/ba/	*VcdObs	Ident-IO-[nas]
a. ba	∗!	
☞ b. pa		∗

...is produced by...

[1] More specifically, ot-tableau will look for the exclamation point. You have to provide the exclamation point.

```
\begin{tableau}{c|s}
\inp{\ips{ba}}          \const{*VcdObs}  \const*{\textsc{Ident-IO}-[nas]}
\cand{ba}               \vio{*!}         \vio{}
\cand[\HandRight]{pa}   \vio{}           \vio{*}
\end{tableau}
```

You can also mix the approaches, which is illustrated in the code for Table 1. (That code is not printed in this manual, but it's available in the .tex version of this file.)

You can control the darkness of the shading using, e.g., `\SetCellShading{0.4}`. A value of 1 corresponds to white, 0 to black. The default is 0.9.

2.3 Symbol position

Some people prefer the "finger-of-optimality" to go after the letter. This can be done by using the `fingerafter` package option. For example:

/ba/	*VcdObs	Ident-IO-[nas]
a. ba	∗!	
b. ☞ pa		∗

...is produced by the following code...

```
\begin{tableau}{c|c}
\inp{\ips{ba}}          \const{*VcdObs}  \const*{\textsc{Ident-IO}-[nas]}
\cand{ba}               \vio{*!}         \vio{}
\cand[\HandRight]{pa}   \vio{}           \vio{*}
\end{tableau}
```

2.4 Circled violations

In one style of tableau, the optimal candidate's violations are circled. You can enabled this with the `circledviolations` package option. In this case, the optimal candidate must be marked with `\Optimal`.

/ba/	*VcdObs	Ident-IO-[nas]
a. ba	∗!	
☞ b. pa		⊛

```
\begin{tableau}{c|c}
\inp{\ips{ba}}          \const{*VcdObs}    \const*{\textsc{Ident-IO}-[nas]}
\cand{ba}               \vio{*!}           \vio{}
\cand[\Optimal]{pa}     \vio{}             \vio{*}
\end{tableau}
```

2.5 Different symbols

Using the optional argument to `\cand`, you can add any annotation to a candidate. The following will be a trip down Memory Lane for some people:

/ba/	*VcdObs	Ident-IO-[nas]
(FFC) a. ba	∗!	
☞ b. pa		∗
❀ c. ta		∗
☜ d. sa		∗

Generated by...

```
\begin{tableau}{c|c}
\inp{\ips{ba}}          \const{*VcdObs} \const*{\textsc{Ident-IO}-[nas]}
\cand[(FFC)]{ba}        \vio{*!}        \vio{}
\cand[\HandRight]{pa}   \vio{}          \vio{*}
\cand[\ding{96}]{ta}    \vio{}          \vio{*}
\cand[\HandLeft]{sa}    \vio{}          \vio{*}
\end{tableau}
```

You can mark the optimal candidate with the `\Optimal` command. This By default, ot-tableau typesets bbding's `\HandRight` symbol (☞), which I find to be the most attractive. ot-tableau also replaces asterisks with the more attractive asterisks in amssymb. You can replace these symbols with others if you wish, using `\renewcommand`:

/ba/	*VcdObs	Ident-IO-[nas]
a. ba	+!	
⋓ b. ma		⊞

```
\renewcommand\OptimalMarker{$\Cup$}
\renewcommand\ViolationMarker{$+$}
\renewcommand\CircledViolationMarker{$\boxplus$}

\begin{tableau}{c|c}
\inp{\ips{ba}}          \const{*VcdObs} \const*{\textsc{Ident-IO}-[nas]}
\cand{ba}               \vio{*!}        \vio{}
\cand[\Optimal]{ma}     \vio{}          \vio{*}
\end{tableau}
```

3 Package Options

It makes the most sense to set these options as package options, but if you want to change the settings in the middle of the documents, you can use the commands indicated in parentheses.

notipa With this option, the TIPA package will not be loaded, and text in the `\cand` argument will not be placed in a `\textipa` command. Use this option if you are using Unicode input for IPA symbols. (`\TipaOn`, `\TipaOff`)

circledviolations Circle the optimal candidate's constraint violations. The optimal candidate must be identified with `\cand[\Optimal]`. (`\CircledViolationsOn`, `\CircledViolationsOff`)

shadedcells Shade cells for a constraint that follow the candidate's fatal violation. (`\ShadingOn`, `\ShadingOff`)

fingerafter Place the finger-of-optimality after the letter rather than before it. (`\FingerBeforeLetter`, `\LetterBeforeFinger`)