`xparse` cheatsheet

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May 8, 2018

Syntax

`\NewDocumentCommand{`⟨*token*⟩`}{`⟨*pars*⟩`}{`⟨*code*⟩`}` makes ⟨*token*⟩ a command whose arguments, ⟨*args*⟩, must conform to ⟨*pars*⟩. If applicable, ⟨*token*⟩⟨*args*⟩ executes ⟨*code*⟩ with `#1`, `#2`, `#3` etc. replaced by ⟨*args*⟩.

Table 1: Hello World!

Input

```
\NewDocumentCommand{\foo}{m}{Hello~#1!}
\foo{World}
```

Output
Hello World!

Table 2: Mandatory arguments

⟨*par*⟩	Input ⟨*token*⟩⟨*arg*⟩	Output
`l`	`\foo World{~Garbage}`	Hello World! Garbage
`m`	`\foo{World}`	Hello World!
	`\foo W{orld}`	Hello W!orld
`r<]`	`\foo`	`! Failed to find ...`
	`\foo<World]`	Hello World!
`R<]{World}`	`\foo`	`! Failed to find ...`
	`\foo<Universe]`	Hello Universe!
`u{|}`	`\foo`	`! Forbidden control sequence`
	`\foo|World|`	Hello World!
`v`	`\foo|World|`	Hello World!

Assumes the same ⟨*code*⟩ as Table 1

List of macros

```
\RenewNewDocumentCommand
\RenewDocumentCommand
```

*firstname dot lastname AusTria gmail dot com

Table 3: Hello World!

Input

```
\NewDocumentCommand{\foo}{s}{Hello~\IfBooleanTF{#1}{World}{Universe}!}
\foo*
```

Output Hello World!

Table 4: Optional arguments

Input		Output
$\langle par \rangle$	$\langle token \rangle \langle arg \rangle$	
d<>	\foo	Hello -NoValue-!
	\foo<World>	Hello World!
D<>{Universe}	\foo	Hello Universe!
	\foo<World>	Hello World!
e{_}	\foo	Hello -NoValue-!
	\foo_{World}	Hello World!
E{_}{Universe}	\foo	Hello -NoValue-!
	\foo_{World}	Hello World!
g	\foo	Hello -NoValue-!
	\foo{World}	Hello World!
G{Universe}	\foo	Hello Universe!
	\foo{World}	Hello World!
o	\foo	Hello -NoValue-!
	\foo[World]	Hello World!
O{Universe}	\foo	Hello Universe!
	\foo[World]	Hello World!

Assumes the same $\langle code \rangle$ as Table 1

Table 5: Optional characters

Input		Output
$\langle par \rangle$	$\langle token \rangle \langle arg \rangle$	
s	\foo	Hello Universe!
	\foo*	Hello World!
t+	\foo	Hello Universe!
	\foo+	Hello World!

Assumes the same $\langle code \rangle$ as Table 3

```
\ProvideDocumentCommand
\DeclareDocumentCommand
\NewDocumentEnvironment
\RenewDocumentEnvironment
\ProvideDocumentEnvironment
\DeclareDocumentEnvironment
\NewExpandableDocumentCommand
\RenewExpandableDocumentCommand
\ProvideExpandableDocumentCommand
\DeclareExpandableDocumentCommand
\IfNoValue(TF)
\IfValue(TF)
\IfBoolean(TF)
```

Acknowledgment

Thanks to latex.org for its invaluable help

References

[1] The LaTeX3 Project Team *l3packages* http://mirror.ctan.org/macros/latex/contrib/l3packages/