# Ceci est le fichier de test de xstring

Attention : ce fichier test\_etex.tex produit une sortie quasiment identique au fichier test\_latex.tex, mais il doit se lancer avec Plain  $\varepsilon$ -TeX. Pour des raison d'encodage, contrairement au fichier test\_latex.tex, les arguments des macros présentées ici ne contiennent pas de lettres accentuées.

Toutes les situations ne sont pas envisagées, mais au moins un grand nombre! Les macros sont examinées dans l'ordre logique du code.

Lorsque le résultat contient des espaces ou peut conduire à des doutes, il sera entouré de "-", étant entendu que "--" est une chaine vide.

# Le mode \fullexpandarg

# Le test IfSubStr

```
\IfSubStr{abcdef}{cd}{vrai}{faux}
\IfSubStr{a b c d }{b c}{vrai}{faux}
                                       vrai
 \IfSubStr{a b c d }{bc}{vrai}{faux}
                                       faux
     \IfSubStr{abcdef}{}{vrai}{faux}
         \IfSubStr{a}{a}{vrai}{faux}
                                       vrai
     \IfSubStr{aaaa}{aa}{vrai}{faux}
                                       vrai
        \IfSubStr{a}{aa}{vrai}{faux}
                                       faux
          \IfSubStr{a}{}{vrai}{faux}
                                       faux
          \IfSubStr{}{a}{vrai}{faux}
                                       faux
           \IfSubStr{}{\vrai}{faux}
                                       faux
 \IfSubStr[2]{abaca}{a}{vrai}{faux}
                                       vrai
 \IfSubStr[3]{abaca}{a}{vrai}{faux}
                                       vrai
  \IfSubStr[4]{abaca}{a}{vrai}{faux}
                                       faux
 \IfSubStr[-2]{abaca}{a}{vrai}{faux}
                                       faux
```

## Le test IfBeginWith

\IfBeginWith{abcdef}{adc}{vrai}{faux} faux \IfBeginWith{abcdef}{abcd}{vrai}{faux} vrai \IfBeginWith{ a b c }{ a}{vrai}{faux} vrai \IfBeginWith{a b c d}{ab}{vrai}{faux} faux \IfBeginWith{a}{a}{vrai}{faux} vrai \IfBeginWith{a}{aa}{vrai}{faux} faux \IfBeginWith{a}{}{vrai}{faux} faux \IfBeginWith{}{a}{vrai}{faux} faux \IfBeginWith{}{\vrai}{faux} faux

# Le test If EndWith

\IfEndWith{abcdef}{ab}{vrai}{faux} faux \IfEndWith{abcdef}{f}{vrai}{faux} vrai \IfEndWith{ a b c }{c}{vrai}{faux} faux \IfEndWith{ a b c }{ \vrai}{faux} vrai \IfEndWith{a}{a}{vrai}{faux} vrai \IfEndWith{a}{aa}{vrai}{faux} faux \IfEndWith{a}{}{vrai}{faux} faux \IfEndWith{}{a}{vrai}{faux} faux \IfEndWith{}{}{vrai}{faux}

## Le test IfSubStrBefore

```
\IfSubStrBefore{abcdef}{b}{e}{vrai}{faux}
                                                     vrai
         \IfSubStrBefore{abcdef}{e}{c}{vrai}{faux}
                                                     faux
        \IfSubStrBefore{ a b c }{ }{b}{vrai}{faux}
                                                     faux
      \IfSubStrBefore{ a b c }{ b}{c }{vrai}{faux}
                                                     vrai
         \IfSubStrBefore{abcdef}{z}{a}{vrai}{faux}
                                                     faux
         \IfSubStrBefore{abcdef}{y}{z}{vrai}{faux}
                                                     faux
         \IfSubStrBefore{abcdef}{a}{z}{vrai}{faux}
                                                     faux
           \IfSubStrBefore{aaa}{a}{aa}{vrai}{faux}
                                                     faux
         \IfSubStrBefore{abcdef}{a}{a}{vrai}{faux}
                                                     faux
              \IfSubStrBefore{a}{a}{a}{vrai}{faux}
                                                     faux
               \IfSubStrBefore{}{a}{b}{vrai}{faux}
                                                     faux
               \IfSubStrBefore{a}{}{a}{vrai}{faux}
                                                     faux
               \IfSubStrBefore{}{a}{a}{vrai}{faux}
                                                     faux
                 \IfSubStrBefore{}{}{\vrai}{faux}
                                                     faux
   \IfSubStrBefore[1,1]{abacada}{d}{a}{vrai}{faux}
                                                     faux
   \IfSubStrBefore[1,2]{abacada}{d}{a}{vrai}{faux}
                                                     faux
   \IfSubStrBefore[1,3]{abacada}{d}{a}{vrai}{faux}
                                                     faux
   \IfSubStrBefore[1,4]{abacada}{d}{a}{vrai}{faux}
                                                     vrai
\IfSubStrBefore[2,1]{maman papa}{a}{p}{vrai}{faux}
                                                     vrai
\IfSubStrBefore[2,2]{maman papa}{a}{p}{vrai}{faux}
                                                     vrai
\IfSubStrBefore[4,2]{maman papa}{a}{p}{vrai}{faux}
                                                     faux
```

## Le test IfStrBehind

\IfSubStrBehind{abcdef}{b}{e}{vrai}{faux} faux \IfSubStrBehind{abcdef}{e}{c}{vrai}{faux} vrai \IfSubStrBehind{ a b c }{ b}{vrai}{faux} faux \IfSubStrBehind{ a b c }{ c}{ a}{vrai}{faux} faux \IfSubStrBehind{abcdef}{z}{a}{vrai}{faux} faux \IfSubStrBehind{abcdef}{y}{z}{vrai}{faux} faux \IfSubStrBehind{abcdef}{a}{z}{vrai}{faux} faux \IfSubStrBehind{aaa}{a}{aa}{vrai}{faux} faux \IfSubStrBehind{abcdef}{a}{a}{vrai}{faux} faux \IfSubStrBehind{a}{a}{a}{vrai}{faux} faux \IfSubStrBehind{}{a}{b}{vrai}{faux} faux \IfSubStrBehind{a}{}{a}{vrai}{faux} faux \IfSubStrBehind{}{a}{a}{vrai}{faux} faux \IfSubStrBehind{}{}{vrai}{faux} faux \IfSubStrBehind[1,1]{abacada}{c}{a}{vrai}{faux} faux \IfSubStrBehind[1,2]{abacada}{c}{a}{vrai}{faux} vrai \IfSubStrBehind[1,3]{abacada}{c}{a}{vrai}{faux} faux \IfSubStrBehind[2,1]{maman papa}{a}{p}{vrai}{faux} faux \IfSubStrBehind[3,1]{maman papa}{a}{p}{vrai}{faux} vrai \IfSubStrBehind[3,2]{maman papa}{a}{p}{vrai}{faux} faux \IfSubStrBehind[4,2]{maman papa}{a}{p}{vrai}{faux} vrai

#### Le test IfInteger

\IfInteger{156}{vrai}{faux} vrai
\IfInteger{1.6}{vrai}{faux} faux
\IfInteger{7a5}{vrai}{faux} vrai
\IfInteger{+9}{vrai}{faux} vrai
\IfInteger{-15}{vrai}{faux} vrai
\IfInteger{0}{vrai}{faux} vrai
\IfInteger{-1,2}{vrai}{faux} faux

	\IfInteger{1.}{vrai}{faux}	faux
	IfInteger(-00){vrai}{faux}	vrai
\	\IfInteger(+){vrai}{faux}	faux
	\IfInteger(-){\vrai}\faux}	faux
	•	
	\IfInteger{.}{vrai}{faux}	faux
	{vrai}{faux}	faux
Le test IfDecimal		
	\IfDecimal{6}{vrai}{faux}	vrai
\	<pre>IfDecimal{-78}{vrai}{faux}</pre>	vrai
/I	<pre>fDecimal{3.14}{vrai}{faux}</pre>	vrai
/I	<pre>fDecimal{3,14}{vrai}{faux}</pre>	vrai
/I	<pre>fDecimal{15}{vrai}{faux}</pre>	faux
\I	<pre>fDecimal{-9.8}{vrai}{faux}</pre>	vrai
\I	<pre>fDecimal{+9.8}{vrai}{faux}</pre>	vrai
	<pre>fDecimal{-9,8}{vrai}{faux}</pre>	vrai
	<pre>fDecimal{+9,8}{vrai}{faux}</pre>	vrai
	<pre>Decimal{+6.7.}{vrai}{faux}</pre>	faux
	\IfDecimal{.5}{vrai}{faux}	vrai
	\IfDecimal{1.}{vrai}{faux}	faux
	fDecimal{99}{vrai}{faux}	vrai
	<pre>IfDecimal{-5.}{vrai}{faux}</pre>	faux
	<pre>fDecimal{5a9.}{vrai}{faux}</pre>	faux
,-	\IfDecimal{+}{vrai}{faux}	faux
	\IfDecimal{-}{vrai}{faux}	faux
	\IfDecimal{.}{vrai}{faux}	faux
	{vrai}{faux}	faux
Lo tost IfC+rEs		
Le test IfStrEq		
	<pre>bcdef){abcdef){vrai}{faux}</pre>	vrai
	{a b c}{a b c}{vrai}{faux}	vrai
	rEq{abcd}{abc}{vrai}{faux}	faux
\If	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux}	faux faux
\If \If	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux}	faux faux faux
\If \If \IfSt	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux}	faux faux faux faux
\If \If \IfSt \IfS	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux}	faux faux faux faux faux
\If \If \IfSt \IfS	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{ }{ }{vrai}{faux}	faux faux faux faux faux vrai
\If \If \IfSt \IfS	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{ }{ }{vrai}{faux}	faux faux faux faux vrai faux
\If \If \IfSt \IfS	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux}	faux faux faux faux vrai faux faux faux
\If \If \IfSt \IfS	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{ }{ }{vrai}{faux}	faux faux faux faux faux vrai faux
\If \If \IfSt \IfS	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux}	faux faux faux faux vrai faux faux faux
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{}vrai}{faux} \IfStrEq{a}{}vrai}{faux}	faux faux faux faux vrai faux vrai
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \bcdef}{vrai}{faux}	faux faux faux faux vrai faux faux vrai vrai
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \bcdef}{abcdef}{vrai}{faux}  {a b c}{a b c}{vrai}{faux}	faux faux faux faux vrai faux vrai vrai vrai
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \fStrEq{bvrai}{faux} \IfStrEq{bvrai}{faux} \fStrEq{bvrai}{faux} \fStrEq{bvrai}{faux}	faux faux faux faux vrai faux vrai vrai vrai faux
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{abcdef}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux}	faux faux faux faux vrai faux vrai vrai vrai faux taux
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \fStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{abcd}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux}	faux faux faux vrai faux vrai vrai vrai faux taux vrai
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{abcdef}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{aa}{vrai}{faux} \IfEq{aab}{aa}{vrai}{faux} \IfEq{aab}{aa}{vrai}{faux}	faux faux faux vrai faux vrai vrai vrai faux taux vrai vrai vrai faux faux taux taux
Le test IfEq  Le test IfEq  \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{abcdef}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{aa}{vrai}{faux} \IfEq{aab}{aa}{vrai}{faux} \IfEq{1.2}{1.20}{vrai}{faux} Eq{+1.0000}{1}{vrai}{faux}	faux faux faux vrai faux vrai vrai vrai faux taux vrai vrai vrai vrai taux faux taux taux taux taux taux
\Iff \lambda \lift	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{abcdef}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{ab}{ab}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux}	faux faux faux faux vrai faux vrai vrai vrai faux faux vrai vrai faux faux faux faux faux faux faux
\Iff \lambda   \	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{abcd}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{ab}{ab}{vrai}{faux} \IfEq{1.2}{1.20}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux} \IfEq{1,2}{1.2}{vrai}{faux}	faux faux faux faux vrai faux vrai vrai vrai faux faux vrai vrai faux faux faux faux raux faux vrai vrai
Le test IfEq  Le test IfEq  \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{a}{vrai}{faux} {a}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{abcd}{vrai}{faux} \IfEq{abcd}{vrai}{faux} \IfEq{aab}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{1.2}{1.20}{vrai}{faux} \IfEq{1.2}{1.20}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux} \IfEq{1,2}{1.2}{vrai}{faux} \IfEq{1,2}{1.2}{vrai}{faux}	faux faux faux faux vrai faux vrai vrai vrai faux faux vrai vrai faux faux faux faux faux taux faux vrai vrai vrai vrai vrai
Le test IfEq  Le test IfEq  \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	rEq{abcd}{abc}{vrai}{faux} StrEq{aab}{ab}{vrai}{faux} StrEq{aab}{aa}{vrai}{faux} rEq{1.2}{1.20}{vrai}{faux} trEq{3,4}{3.4}{vrai}{faux} IfStrEq{}{}{vrai}{faux} {a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{a}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{b}{vrai}{faux} \IfStrEq{abcd}{vrai}{faux} \IfEq{abcd}{abc}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{aab}{ab}{vrai}{faux} \IfEq{ab}{ab}{vrai}{faux} \IfEq{1.2}{1.20}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux} \IfEq{-10}{10}{vrai}{faux} \IfEq{1,2}{1.2}{vrai}{faux}	faux faux faux faux vrai faux taux vrai vrai vrai faux faux taux taux faux faux faux faux taux taux vrai vrai vrai vrai

```
\IfEq{123}{1a3}{vrai}{faux}
                                                  \IfEq{0}{}{vrai}{faux}
                                                                         faux
                                            \IfEq{++10}{+10}{vrai}{faux}
                                                                         faux
                                            \IfEq{--10}{+10}{vrai}{faux}
                                                 \IfEq{a}{}{vrai}{faux}
                                                                         faux
                                                 \IfEq{}{a}{vrai}{faux}
                                                                         faux
                                                  \IfEq{}{}{vrai}{faux}
                                                                         vrai
La macro StrBefore
                                                 \StrBefore{abcedef}{e}
                                                   \StrBefore{abcdef}{a}
                                                   \StrBefore{abcdef}{z}
                                                 \StrBefore{a b c d}{c}
                                                 \StrBefore{a b c d}{ }
                                                                         -a-
                                              \StrBefore[2]{a b c d}{ }
                                                                         -a b-
                                               \StrBefore[3]{a b c d}{ }
                                                                         -a b c-
                                               \StrBefore[9]{a b c d}{ }
                                              \StrBefore[-7]{a b c d}{}
                                                   \StrBefore{abcdef}{Z}
                                              \StrBefore[1]{aaaaaa}{aa}
                                              \StrBefore[2]{aaaaaa}{aa}
                                               \StrBefore[3]{aaaaaa}{aa}
                                               \StrBefore[4]{aaaaaa}{aa}
                                                         \StrBefore{a}{} --
                                                         \StrBefore{}{a} --
                                                         \StrBefore{}{} --
Mêmes exemples avec l'argument optionnel:
                                          \StrBefore{abcedef}{e}[\aa]\aa abc
                                           \StrBefore{abcdef}{a}[\aa]\aa
                                          \StrBefore{abcdef}{z}[\aa]\aa --
                                          \StrBefore{a b c d}{c}[\aa]\aa -a b -
                                          \StrBefore{a b c d}{ }[\aa]\aa -a-
                                      \Text{StrBefore[2]{a b c d}{ }[\aa]\aa -a b-
                                       \StrBefore[3]{a b c d}{ }[\aa]\aa
                                                                         -a b c-
                                       \StrBefore[9]{a b c d}{ }[\aa]\aa
                                      \Time {1}{a b c d}{ }[\aa]\aa
                                           \StrBefore{abcdef}{Z}[\aa]\aa --
                                      \StrBefore[1]{aaaaaa}{aa}[\aa]\aa --
                                      \StrBefore[2]{aaaaaa}{aa}[\aa]\aa aa
                                       \StrBefore[3]{aaaaaa}{aa}[\aa]\aa aaaa
                                       \StrBefore[4]{aaaaaa}{aa}[\aa]\aa
                                                 \StrBefore{a}{}[\aa]\aa --
                                                 \StrBefore{}{a}[\aa]\aa --
                                                 \StrBefore{}{}[\aa]\aa --
La macro StrBehind
                                                 \StrBehind{abcedef}{e}
                                                   \StrBehind{abcdef}{a}
                                                                         -bcdef-
                                                   \StrBehind{abcdef}{z}
                                                  \StrBehind{a b c d}{c} - d
                                                  \StrBehind{a b c d}{ } -b c d-
                                              \T c d-
                                              \StrBehind[3]{a b c d}{} -d-
```

```
\StrBehind[9]{a b c d}{}
                                               \StrBehind[-7]{a b c d}{ }
                                                    \StrBehind{abcdef}{Z}
                                                \StrBehind[1]{aaaaaa}{aa}
                                                \StrBehind[2]{aaaaaa}{aa}
                                                \StrBehind[3]{aaaaaa}{aa}
                                                \StrBehind[4]{aaaaaa}{aa}
                                                          \StrBehind{a}{}
                                                          \StrBehind{}{a}
                                                           \StrBehind{}{}
Mêmes exemples avec l'argument optionnel:
                                           \StrBehind{abcedef}{e}[\aa]\aa
                                            \StrBehind{abcdef}{a}[\aa]\aa
                                                                           -bcdef-
                                            \Time {abcdef}{z}[\aa]\aa
                                           \StrBehind{a b c d}{c}[\aa]\aa
                                           \StrBehind{a b c d}{ }[\aa]\aa
                                                                           -b c d-
                                        \Tilde{StrBehind[2]{a b c d}{ }[\aa]\aa}
                                                                           -c d-
                                        \Time {3}{a b c d}{ }[\aa]\aa
                                        \Time {1}{a b c d} { [\aa] a}
                                       \Time \frac{1}{a} b c d}{ }[\aa]\aa
                                            \Time {abcdef}{Z}[\aa]\aa
                                        \StrBehind[1]{aaaaaa}{aa}[\aa]\aa
                                        \StrBehind[2]{aaaaaa}{aa}[\aa]\aa
                                        \StrBehind[3]{aaaaaa}{aa}[\aa]\aa
                                        \Time {1}{aaaaaa}{aa}{aa}{aa} \
                                                  StrBehind{a}{}[\aa]\aa
                                                  \StrBehind{}{a}[\aa]\aa --
                                                   \StrBehind{}{}[\aa]\aa --
La macro StrBetween
                                                \StrBetween{abcdef}{b}{e}
                                              \StrBetween{aZaaaaZa}{Z}{Z}
                                         \Time StrBetween[1,2]{aZaaaaZa}{Z}{Z}
                                                                           -aaaa-
                                               \StrBetween{a b c d}{a}{c}
                                                                           - b -
                                             \StrBetween{a b c d}{a }{ d}
                                                                           -b c-
                                                \StrBetween{abcdef}{a}{Z}
                                                \StrBetween{abcdef}{Y}{Z}
                                        \StrBetween[2,5]{aAaBaCaDa}{a}{a}
                                                                           -BaCaD-
                                   \StrBetween[4,1]{ab1ab2ab3ab4ab}{b}{a}
                                      \Times 2,4]{a b c d e f}{} 
                                                                           -d-
                                         \StrBetween[1,3]{aaaaaa}{aa}{aa}
                                                 \StrBetween{abcdef}{a}{}
                                                 \StrBetween{abcdef}{}{f}
                                                      \StrBetween{}{a}{b}
Mêmes exemples avec l'argument optionnel:
                                        \StrBetween{abcdef}{b}{e}[\aa]\aa cd
                                      \Text{StrBetween} \{aZaaaaZa\} \{Z\} \{Z\} [\aa] \aa
                                \Times The tween [1,2] {aZaaaaZa}{Z}{Z}[\a] \a
                                       \StrBetween{a b c d}{a}{c}[\aa]\aa
                                     \T StrBetween{a b c d}{a }{ d}[\aa]\aa
                                        \Time {\bf Z} [\a] \a
                                        \StrBetween{abcdef}{Y}{Z}[\aa]\aa --
                               \Text{StrBetween [2,5] {aAaBaCaDa}{a}{a}[\aa] -BaCaD-}
```

```
\StrBetween[4,1]{ab1ab2ab3ab4ab}{b}{a}[\aa]\aa
                              \Times The tween [3,4]{a b c d e f}{ }{ }[\aa]\aa
                                 \StrBetween[1,3]{aaaaaa}{aa}[\aa]\aa aa
                                         \StrBetween{abcdef}{a}{}[\aa]\aa --
                                         \StrBetween{abcdef}{}{f}[\aa]\aa --
                                              \StrBetween{}{a}{b}[\aa]\aa --
La macro StrSubstitute
                                            \StrSubstitute{abcdef}{c}{ZZ}
                                                                            abZZdef
                                           \StrSubstitute{aaaaaaa}{aa}{w}
                                                                            wwwa
                                         \StrSubstitute[0]{abacada}{a}{.}
                                                                            .b.c.d.
                                         \StrSubstitute[1]{abacada}{a}{.}
                                                                            .bacada
                                         \StrSubstitute[2]{abacada}{a}{.}
                                                                            .b.cada
                                         \StrSubstitute[3]{abacada}{a}{.}
                                                                            .b.c.da
                                         \StrSubstitute[4]{abacada}{a}{.}
                                                                            .b.c.d.
                                         \StrSubstitute[5]{abacada}{a}{.}
                                                                            .b.c.d.
                                          \StrSubstitute{a b c d e}{ }{,}
                                                                            a,b,c,d,e
                                           \StrSubstitute{a b c d e}{ }{}
                                                                            abcde
                                              \StrSubstitute{abcdef}{}{A}
                                                                            abcdef
                                               \StrSubstitute{abcdef}{}{}
                                                                            abcdef
                                                   \StrSubstitute{}{a}{b}
                                                     \StrSubstitute{}{}{} --
Mêmes exemples avec l'argument optionnel:
                                    \StrSubstitute{abcdef}{c}{ZZ}[\aa]\aa
                                                                            abZZdef
                                   \StrSubstitute{aaaaaaa}{aa}{w}[\aa]\aa
                                                                            wwwa
                                 \StrSubstitute[0]{abacada}{a}{.}[\aa]\aa
                                                                            .b.c.d.
                                 \StrSubstitute[1]{abacada}{a}{.}[\aa]\aa
                                                                           .bacada
                                 \StrSubstitute[2]{abacada}{a}{.}[\aa]\aa .b.cada
                                 \StrSubstitute[3]{abacada}{a}{.}[\aa]\aa
                                                                            .b.c.da
                                 \StrSubstitute[4]{abacada}{a}{.}[\aa]\aa
                                                                            .b.c.d.
                                 \StrSubstitute[5]{abacada}{a}{.}[\aa]\aa
                                                                            .b.c.d.
                                  \StrSubstitute{a b c d e}{ }{,}[\aa]\aa
                                                                            a,b,c,d,e
                                   \StrSubstitute{a b c d e}{ }{}[\aa]\aa
                                                                            abcde
                                      \StrSubstitute{abcdef}{}{A}[\aa]\aa
                                                                            abcdef
                                       \StrSubstitute{abcdef}{}{}[\aa]\aa
                                                                           abcdef
                                           \StrSubstitute{}{a}{b}[\aa]\aa
                                             \StrSubstitute{}{}{[\aa]\aa
La macro StrDel
                                                     \StrDel{a1a2a3a4}{a}
                                                                            1234
                                                  \StrDel[2]{a1a2a3a4}{a}
                                                                            12a3a4
                                                 \Tilde{StrDel[-2]{a1a2a3a4}{a}}
                                                                            1234
                                                 \StrDel[10]{a1a2a3a4}{a}
                                                                            1234
                                                 \StrDel[3]{a b c d e}{a}
                                                                            b c d e
Mêmes exemples avec l'argument optionnel :
                                             StrDel{a1a2a3a4}{a}[\aa]\a 1234
                                          \StrDel[2]{a1a2a3a4}{a}[\aa]\aa
                                                                            12a3a4
                                         \StrDel[-2]{a1a2a3a4}{a}[\aa]\aa 1234
                                         \StrDel[10]{a1a2a3a4}{a}[\aa]\aa 1234
                                         \Time 13 {a b c d e}{a}[\aa]\aa
La macro StrLen
                                                          \StrLen{abcdef} 6
```

\StrLen{a b c}	5
\StrLen{ a b c }	7
\StrLen{a}	1
	0
Mâmas aramplas area l'angument antiannal :	
Mêmes exemples avec l'argument optionnel : \StrLen{abcdef}[\aa]\aa	6
\StrLen{abcder; [\aa] \aa \StrLen{a b c}[\aa] \aa	5
\StrLen{a b c }[\aa]\aa \StrLen{a b c }[\aa]\aa	7
\StrLen{a} \C \[ \{ \alpha \] \\ \StrLen{a} \[ \alpha \] \\ \alpha \]	1
a, [\da] \da \ [\aa] \aa	0
/Strrent,[/aa]/aa	U
la macro StrMid	
$\T^{1}$	bcde
$StrMid\{a\ b\ c\ d\}\{2\}\{6\}$	- b c -
$\T$	
$StrMid\{abcdef\}\{-4\}\{3\}$	abc
$\StrMid{abcdef}_{-4}_{-1}$	
\StrMid{abcdef}{-4}{20}	abcdef
\StrMid{abcdef}{8}{10}	
$\T^{1}$	b
$StrMid\{aaaaaa\}\{3\}\{6\}$	aaaa
{4}{5}	
Mêmes exemples avec l'argument optionnel :	h a da
\StrMid{abcdef}{2}{5}[\aa]\aa	bcde
\StrMid{a b c d}{2}{6}[\aa]\aa	- b c -
\StrMid{abcdef}{4}{2}[\aa]\aa \StrMid{abcdef}{-4}{3}[\aa]\aa	abc
\StrMid{abcdef}{-4}{\alpha}\aa \StrMid{abcdef}{-4}\{-1}[\aa]\aa	anc 
\StrMid{abcdef}{-4}{20}[\aa]\aa \StrMid{abcdef}{-4}\sqrt{20}[\aa]\aa	abcdef
\StrMid{abcdef}{\8\{10\}[\aa]\aa \StrMid{abcdef}\8\\10\}[\aa]\aa	
\StrMid{abcdef}{2}{2}[\aa]\aa	 b
\StrMid{abacder}{2}{2}{\alphaa}\aa \StrMid{abacaaa}{3}{6}[\aa]\aa	
\StrMid{\}{4}\{5}\[\aa]\aa \\StrMid{\}{4}\{5}\[\aa]\aa	aaaa
La macro StrGobbleLeft	
\StrGobbleLeft{abcdef}{3}	def
\StrGobbleLeft{a b c d}{3}	- c d-
\StrGobbleLeft{abcdef}{-3}	abcdef
\StrGobbleLeft{abcdef}{9}	
\StrGobbleLeft{aaaaa}{4}	a
{2}	
Mêmes exemples avec l'argument optionnel :	
\StrGobbleLeft{abcdef}{3}[\aa]\aa	def
\StrGobbleLeft{a b c d}{3}[\aa]\aa	- c d-
\StrGobbleLeft{abcdef}{-3}[\aa]\aa	abcdef
\StrGobbleLeft{abcdef}{\gamma\	abcdel
\StrGobbleLeft{aaaaa}{4}[\aa]\aa	a
{2}[\aa]\aa	
_	
La macro StrGobbleRight	
\StrGobbleRight{abcdef}{3}	abc
\StrGobbleRight{a b c d}{3}	-a b -
\StrGobbleRight{abcdef}{-3}	abcdef

```
\StrGobbleRight{abcdef}{9}
                                              \StrGobbleRight{aaaaa}{4} a
                                                   \StrGobbleRight{}{2} --
Mêmes exemples avec l'argument optionnel :
                                     \StrGobbleRight{abcdef}{3}[\aa]\aa abc
                                    \T c d = a b - a b
                                    \StrGobbleRight{abcdef}{-3}[\aa]\aa abcdef
                                     \StrGobbleRight{abcdef}{9}[\aa]\aa --
                                      \verb|\StrGobbleRight{aaaaa}{4}[\aa] \aa \quad a
                                           \StrGobbleRight{}{2}[\aa]\aa --
La macro StrLeft
                                                    \StrLeft{abcdef}{3} abc
                                                   \StrLeft{a b c d}{3} -a b-
                                                   \StrLeft{abcdef}{-3} --
                                                    \StrLeft{abcdef}{9} -abcdef-
                                                     \StrLeft{aaaaa}{4} aaaa
                                                          \StrLeft{}{2} --
Mêmes exemples avec l'argument optionnel :
                                            \StrLeft{abcdef}{3}[\aa]\aa abc
                                           \footnote{2} \c d{3}[\a -a b-
                                           \StrLeft{abcdef}{-3}[\aa]\aa --
                                            \StrLeft{abcdef}{9}[\aa]\aa -abcdef-
                                             \StrLeft{aaaaa}{4}[\aa]\aa aaaa
                                                  \StrLeft{}{2}[\aa]\aa --
La macro StrRight
                                                   \StrRight{abcdef}{3} def
                                                  \StrRight{a b c d}{3}
                                                                       -c d-
                                                  \StrRight{abcdef}{-3}
                                                   \StrRight{abcdef}{9}
                                                                        -abcdef-
                                                    \StrRight{aaaaa}{4}
                                                                        aaaa
                                                         \Tilde{StrRight}{2}
Mêmes exemples avec l'argument optionnel :
                                           \StrRight{abcdef}{3}[\aa]\aa def
                                          \T c d - c d
                                          \Times {abcdef}{-3}[\aa] --
                                           \StrRight{abcdef}{9}[\aa]\aa -abcdef-
                                            \StrRight{aaaaa}{4}[\aa]\aa aaaa
                                                 \StrRight{}{2}[\aa]\aa --
la macro StrChar
                                                    \StrChar{abcdef}{5} e
                                                   \StrChar{a b c d}{4} --
                                                   \StrChar{a b c d}{7} d
                                                   \StrChar{abcdef}{10} --
                                                   \StrChar{abcdef}{-5} --
                                                          \StrChar{}{3} --
Mêmes exemples avec l'argument optionnel :
                                            \StrChar{abcdef}{5}[\aa]\aa e
                                           \T char{a b c d}{4}[\aa]\a --
                                           \StrChar{a b c d}{7}[\aa]\aa d
```

```
\StrChar{abcdef}{10}[\aa]\aa
                                               \StrChar{abcdef}{-5}[\aa]\aa --
                                                       \Times {3}[\aa] \aa --
La macro StrCount
                                                        \StrCount{abcdef}{d} 1
                                                       \mathsf{StrCount}\{a\ b\ c\ d\}\{\ \} 3
                                                       \StrCount{aaaaaa}{aa} 3
                                                        \mathsf{StrCount}\{\mathsf{abcdef}\}\{\mathsf{Z}\}=0
                                                         \StrCount{abcdef}{}
                                                              \StrCount{}{a}
                                                               \mathsf{StrCount}\{\}\{\}\ 0
Mêmes exemples avec l'argument optionnel:
                                               \StrCount{abcdef}{d}[\aa]\aa 1
                                               \StrCount{a b c d}{ }[\aa]\aa 3
                                               \StrCount{aaaaaa}{aa}[\aa]\aa 3
                                               \StrCount{abcdef}{Z}[\aa]\aa 0
                                                \StrCount{abcdef}{}[\aa]\aa 0
                                                      \mathsf{StrCount}\{a\}[\aa]\aa 0
                                                       \mathsf{StrCount}\{\}\{\}[\aa]\aa\ 0
La macro StrPosition
                                                     \StrPosition{abcdef}{c} 3
                                                     \StrPosition{abcdef}{Z}
                                                    \StrPosition{a b c d}{ }
                                                 \StrPosition[3]{a b c d}{}
                                                 \StrPosition[8]{a b c d}{}
                                                    \StrPosition{aaaaaa}{aa}
                                                 \StrPosition[2]{aaaaaa}{aa}
                                                 \StrPosition[3]{aaaaaa}{aa}
                                                      \StrPosition{abcdef}{}
                                                           \mathsf{StrPosition}\{\}\{a\} = 0
                                                            \mathsf{StrPosition}\{\}\{\} = 0
Mêmes exemples avec l'argument optionnel :
                                            \StrPosition{abcdef}{c}[\aa]\aa 3
                                            \Time {\bf Z}[\aa] \aa 0
                                           \StrPosition{a b c d}{ }[\aa]\aa 2
                                        \StrPosition[3]{a b c d}{ }[\aa]\aa 6
                                        \Time {\bf StrPosition[8]{a b c d}{ }[\aa]\aa 0}
                                           \StrPosition{aaaaaa}{aa}[\aa]\aa
                                        \StrPosition[2]{aaaaaa}{aa}[\aa]\aa
                                        \StrPosition[3]{aaaaaa}{aa}[\aa]\aa
                                             \StrPosition{abcdef}{}[\aa]\aa 0
                                                   \Time {1}{a}[\aa] \aa 0
                                                    \mathsf{StrPosition}\{\}\{\aa}\a=0
La macro StrCompare
La tolérance normale :
                                               \StrCompare{abcdefghij}{abc}
                                                           \StrCompare{A}{A}
                                                   \StrCompare{abcdef}{a bd}
                                                           \StrCompare{ }{ }{ }{ }
                                                         \StrCompare{}{abcd} 0
```

```
\StrCompare{abcd}{}
                                               \StrCompare{123456}{1234}
                                             \StrCompare{a b c d}{a bcd}
                                                          \StrCompare{}{}
                                                   \StrCompare{eee}{eeee}
                                                  \StrCompare{eeee}{eee}
                                             \StrCompare{totutu}{tututu}
                                                  \StrCompare{abcd}{abyz}
Mêmes exemples avec l'argument optionnel :
                                    \StrCompare{abcdefghij}{abc}[\aa]\aa 0
                                               \StrCompare{A}{A}[\aa]\aa
                                       \StrCompare{abcdef}{a bd}[\aa]\aa
                                               \Time { } { } [\aa] \aa 0
                                             \StrCompare{}{abcd}[\aa]\aa
                                             \StrCompare{abcd}{}[\aa]\aa
                                       \StrCompare{123456}{1234}[\aa]\aa
                                     \StrCompare{a b c d}{a bcd}[\aa]\aa
                                                  \StrCompare{}{}[\aa]\aa
                                          \StrCompare{eee}{eeee}[\aa]\aa
                                          \StrCompare{eeee}{eee}[\aa]\aa
                                     \StrCompare{totutu}{tututu}[\aa]\aa
                                         \StrCompare{abcd}{abyz}[\aa]\aa
La tolérance stricte :
                                            \StrCompare{abcdefghij}{abc}
                                                        \StrCompare{A}{A}
                                               \StrCompare{abcdef}{a bd}
                                                        \StrCompare{ }{ }
                                                     \StrCompare{}{abcd}
                                                     \StrCompare{abcd}{}
                                                                           1
                                               \StrCompare{123456}{1234}
                                             \StrCompare{a b c d}{a bcd}
                                                                           4
                                                          \StrCompare{}{}
                                                                           0
                                                  \StrCompare{eee}{eee}
                                                  \StrCompare{eeee}{eee}
                                             \StrCompare{totutu}{tututu}
                                                  \StrCompare{abcd}{abyz}
Mêmes exemples avec l'argument optionnel :
                                    \StrCompare{abcdefghij}{abc}[\aa]\aa
                                               \Time {A}{A}[\a] \a
                                       \StrCompare{abcdef}{a bd}[\aa]\aa
                                               \Time { } { } [\aa] \aa 0
                                             \StrCompare{}{abcd}[\aa]\aa
                                             \StrCompare{abcd}{}[\aa]\aa
                                       \StrCompare{123456}{1234}[\aa]\aa
                                     \StrCompare{a b c d}{a bcd}[\aa]\aa
                                                 \StrCompare{}{}[\aa]\aa
                                          \StrCompare{eee}{eeee}[\aa]\aa
                                          \StrCompare{eeee}{eee}[\aa]\aa
                                     \StrCompare{totutu}{tututu}[\aa]\aa 2
```

\StrCompare{abcd}{abyz}[\aa]\aa 3

# Le mode \noexpandarg

Dans toute la suite sauf si c'est précisé, la commande \noexpandarg est activée.

#### Le test IfSubStr

```
\noexploregroups
        \IfSubStr{1$2$\a{34}\bc5}{2}{vrai}{faux}
                                               vrai
       \IfSubStr{1$2$\a{34}\bc5}{34}{vrai}{faux}
                                               faux
     \IfSubStr{1$2$\a{34}\bc5}{{34}}{vrai}{faux}
                                               vrai
       \IfSubStr{1$2$\a{34}\bc5}{\b}{vrai}{faux}
                                               faux
      \IfSubStr{1$2$\a{34}\bc5}{\bc}{\vrai}{faux}
                                               vrai
     \IfSubStr{1$2$\a{34}\bc5}{\bc5}{vrai}{faux}
                                               vrai
   \IfSubStr{1$2$\a{34}\bc5}{\bc{5}}{vrai}{faux}
                                               faux
\ \fi = \frac{1}{a1{a1}}a2}a3}{a}{vrai}{faux}
                                               vrai
\frac{1}{a1}{a2}{a3}{vrai}{faux}
                                               vrai
\frac{1}{a1}{a1}{a2}{a3}{vrai}{faux}
                                               faux
\ \fi = \frac{4}{a1{a1}\a2}\a3}{\a}{\a}{\a}{\a}
                                               faux
                                 \exploregroups
        \IfSubStr{1$2$\a{34}\bc5}{2}{vrai}{faux}
                                               vrai
       \IfSubStr{1$2$\a{34}\bc5}{34}{vrai}{faux}
                                               vrai
     \IfSubStr{1$2$\a{34}\bc5}{{34}}{vrai}{faux}
                                               vrai
       \IfSubStr{1$2$\a{34}\bc5}{\b}{\vrai}{faux}
                                               faux
      \IfSubStr{1$2$\a{34}\bc5}{\bc}{\vrai}{faux}
                                               vrai
     \IfSubStr{1$2$\a{34}\bc5}{\bc5}{vrai}{faux}
   \IfSubStr{1$2$\a{34}\bc5}{\bc{5}}{vrai}{faux}
                                               faux
\IfSubStr[1]{\a1{\a1}\a2}\a3}{\a}{\ai}{\aux}
                                               vrai
\frac{1}{a1}{a2}{a3}{vrai}{faux}
                                                vrai
vrai
\footnote{A}{\a1{\a1}\a2}\a3}{\a}{\anal}{\aux}
                                               vrai
```

## Le test If BeginWith

Les tests doivent donner des résultats identiques ci-dessous puisque \IfBeginWith est indifférent au mode d'exploration des groupes !

```
\noexploregroups
 \footnote{A} 123\b456}{\a}{\vrai}{faux}
                                            faux
\footnote{A}{123\b456}{{\a}}{vrai}{faux}
                                            vrai
   \IfBeginWith{{\a1}\b\c\d}{\a}{vrai}{faux}
                                            faux
     \IfBeginWith{{1}23456}{12}{vrai}{faux}
      \IfBeginWith{{1}23456}{1}{vrai}{faux}
                                            faux
   \IfBeginWith{{1}23456}{{1}2}{vrai}{faux}
                                            vrai
                             \exploregroups
 faux
\footnote{A}{123\b456}{{\a}}{vrai}{faux}
                                            vrai
  \IfBeginWith{{\a1}\b\c\d}{\a}{vrai}{faux}
                                            faux
     \IfBeginWith{\{1\}23456\}\{12\}\{vrai\}\{faux\}\}
                                            faux
      \IfBeginWith{{1}23456}{1}{vrai}{faux}
                                            faux
   \IfBeginWith{{1}23456}{{1}2}{vrai}{faux}
                                            vrai
```

## Le test If EndWith

Les tests doivent donner des résultats identiques ci-dessous puisque \IfEndWith est indifférent au mode d'exploration des groupes !

\noexploregroups

```
\left(\frac{1}{2}\right)^{1}
                                                                                                                                                                                                                       faux
\ \left( \frac{a1}b2{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\
                                                                                                                                                                                                                       vrai
                   \ \left( \frac{a1}b2{\c3}}{3}\right) {\cosen} 
                                                                                                                                                                                                                       faux
                             \IfEndWith{12345{6}}{56}{vrai}{faux}
                                                                                                                                                                                                                       faux
                                  \IfEndWith{12345{6}}{6}{vrai}{faux}
                                                                                                                                                                                                                      faux
                   \IfEndWith{12345{6}}{5{6}}{vrai}{faux}
                                                                                                                                                                                                                      vrai
                                                                                                                                          \exploregroups
         \left(\frac{a1}b2{\c3}}{\c3}\right)
                                                                                                                                                                                                                       faux
\ \left( \frac{a1}b2{\c3}}{{\c3}}{{\c3}}{{\c3}}{{\c3}}
                                                                                                                                                                                                                       vrai
                   \left(\frac{a1}b2{c3}}{3}\right)
                                                                                                                                                                                                                      faux
                              \IfEndWith{12345{6}}{56}{vrai}{faux}
                                                                                                                                                                                                                      faux
                                  \IfEndWith{12345{6}}{6}{vrai}{faux}
                                                                                                                                                                                                                      faux
                   \IfEndWith{12345{6}}{5{6}}{vrai}{faux}
```

### Le test IfSubStrBefore

```
\noexploregroups
 \label{lem:likelihood} $$ \prod_{1,1}{a1\a2\a3\b1\b2\b3}{2}{\b}{\vrai}{faux} $$
                                                             vrai
 \TSubStrBefore[2,1]{\a1\a2\a3\b1\b2\b3}{2}{\b}{\vrai}{faux}
                                                             faux
 \IfSubStrBefore[2,3]_{a1\a2\a3\b1\b2\b3}_{a}_{vrai}_{faux}
                                                             vrai
\TSubStrBefore[1,1]_{a1{a2\a3\b1}\b2\b3}{2}_{b}_{vrai}_{faux}
                                                             faux
\TSubStrBefore[1,2]_{\a1{\a2\a3\b1}\b2\b3}_{3}_{\b}_{\rai}_{\faux}
                                                             faux
                                              \exploregroups
 \TisubStrBefore[1,1]{\a1\a2\a3\b1\b2\b3}{2}{\b}{\vrai}{\faux}
                                                             vrai
 faux
 \IfSubStrBefore[2,3]_{a1\a2\a3\b1\b2\b3}_{a}_{vrai}_{faux}
                                                             vrai
\frac{1,1}{a1{a2\a3\b1}\b2\b3}{2}{\b}{\vrai}{faux}
                                                             vrai
\label{lem:likelihood} $$ \prod_{a_2\alpha}b_1\b2\b3}{3}{\b}{\vrai}{faux} $$
                                                             vrai
```

## Le test IfStrBehind

```
\noexploregroups
        \label{lem:likelihood} $$ \prod_{2,1}{\hat 2^a}\mathbb{2}^{b}_{\operatorname{ux}} $$ If SubStrBehind [2,1]_{a1\a2\a3\b1\b2\b3}_{2}_{\mathbf{0}}_{\mathbf{0}}.
                                                                                                                                                                                                                                               vrai
    \label{lem:lifsubStrBehind[3,1]} $$ \prod_{a_2\alpha3b1b2b3}{a}{b}{vrai}{faux} $$
        \IfSubStrBehind[1,1]{\a1\a2\a3\b1\b2\b3}{\b}{3}{vrai}{faux}
                                                                                                                                                                                                                                               vrai
faux
vrai
                                                                                                                                                                                   \exploregroups
       \IfSubStrBehind[2,1]_{\a1\a2\a3\b1\b2\b3}_{2}_{\b}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth}_{\columnwidth
                                                                                                                                                                                                                                               vrai
    \IfSubStrBehind[3,1]_{a1\a2\a3\b1\b2\b3}_{a}_{vrai}_{faux}
                                                                                                                                                                                                                                               faux
        \IfSubStrBehind[1,1]{\a1\a2\a3\b1\b2\b3}{\b}{3}{vrai}{faux}
                                                                                                                                                                                                                                               vrai
vrai
faux
```

## Le test IfInteger

Dans les exemples ci-dessous, on examine la différence de comportement de la macro \IfInteger selon les modes de développement des arguments.

```
\IfInteger{\nbA}{vrai}{faux}
                                      vrai
 \IfInteger{\nbA5\nbA}{vrai}{faux}
                                      faux
 \IfInteger{\nbA6\nbB}{vrai}{faux}
                                      vrai
\IfInteger{\nbAA7\nbBB}{vrai}{faux}
                                      faux
                        \noexpandarg
       \IfInteger{\nbA}{vrai}{faux}
                                      faux
 \IfInteger{\nbA5\nbA}{vrai}{faux}
                                      faux
 \IfInteger{\nbA6\nbB}{vrai}{faux}
                                      faux
\IfInteger{\nbAA7\nbBB}{vrai}{faux}
                                      faux
```

## Le test IfDecimal

Dans les exemples ci-dessous, on examine la différence de comportement de la macro \IfDecimal selon les modes de développement des arguments.

```
\def\nbA{-12}\def\nbB{498}
    \def\nbAA{\nbA}\def\nbBB{\nbB}
                     \fullexpandarg
\IfDecimal{\nbA,\nbB}{vrai}{faux}
                                     vrai
\IfDecimal{\nbAA.\nbB}{vrai}{faux}
                                     vrai
  \IfDecimal{\nbB,777}{vrai}{faux}
                                     vrai
 \IfDecimal{3\nbB,777}{vrai}{faux}
                                     vrai
 \IfDecimal{\nbB,\nbB}{vrai}{faux}
                                     vrai
                         \expandarg
 \IfDecimal{\nbA,\nbB}{vrai}{faux}
                                     vrai
\IfDecimal{\nbAA.\nbB}{vrai}{faux}
                                     faux
 \IfDecimal{\nbB,777}{vrai}{faux}
                                     vrai
 \IfDecimal{3\nbB,777}{vrai}{faux}
                                     vrai
 \IfDecimal{\nbB,\nbB}{vrai}{faux}
                                     vrai
                       \noexpandarg
 \IfDecimal{\nbA,\nbB}{vrai}{faux}
                                     faux
\IfDecimal{\nbAA.\nbB}{vrai}{faux}
                                     faux
  \IfDecimal{\nbB,777}{vrai}{faux}
                                     vrai
 \IfDecimal{3\nbB,777}{vrai}{faux}
                                     vrai
 \IfDecimal{\nbB,\nbB}{vrai}{faux}
                                     vrai
```

# La macro StrBefore

```
\noexploregroups
\detokenize\expandafter{\cmd}
                                                     1 a 2
\T = [3] {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                      \detokenize\expandafter{\cmd}
                                                     1\a 2\a 3\{4\a 5\{6\a 7\}8\a \}9
\T = \frac{4}{1 \cdot 2 \cdot 3}{4 \cdot 5}{6 \cdot a7}8 \cdot 9 \cdot 0}{\c md}
                      \detokenize\expandafter{\cmd}
\T = [5] {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                      \detokenize\expandafter{\cmd}
\T = \{6, 1 \leq 3\{4 \leq 6 \leq 7\} \leq 4\} 
                      \detokenize\expandafter{\cmd}
                                     \exploregroups
\T = \frac{2}{1 \cdot 2 \cdot 3}{4 \cdot 5}{6 \cdot 7}8 \cdot 9 \cdot 0}{(\cmd)}
                      \detokenize\expandafter{\cmd}
                                                     1\a 2
\T = [3] {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                      \detokenize\expandafter{\cmd}
```

```
\T = \frac{4}{1 \cdot 2 \cdot 3}{4 \cdot 5}{6 \cdot 7}8 \cdot 9 \cdot 0}{ \cdot cmd}
                                                                                                                              \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                      6
                                                             4\a 5{6\a 7}8
                                                                                                                              \detokenize\expandafter{\cmd}
                                                             \T = [6] {1 \a2\a3{4\a5{6\a7}8\a}9\a0}{\a}[\cmd]
                                                                                                                             \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                      1\a 2\a 3\{4\a 5\{6\a 7\}8\a \}9
La macro StrBehind
                                                                                                                                                                   \noexploregroups
                                                             \Time 12 {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                                                                                                                                                                                                                      3{4\a 5{6\a 7}8\a }9\a 0
                                                                                                                              \detokenize\expandafter{\cmd}
                                                             \Time 13 {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                                                                                                                              \detokenize\expandafter{\cmd}
                                                             \Time {1}{1\a2\a3{4\a5{6\a7}8\a}9\a0}{\a}[\cmd]
                                                                                                                             \detokenize\expandafter{\cmd}
                                                             \Time 1 = 1 a^{4 a^{6 a^{8a}} (a)} (a) {\cite{a} 
                                                                                                                              \detokenize\expandafter{\cmd}
                                                             \Time 16 {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                                                                                                                              \detokenize\expandafter{\cmd}
                                                                                                                                                                         \exploregroups
                                                             \Time 12 {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                                                                                                                              \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                      3{4\a 5{6\a 7}8\a }9\a 0
                                                             \Time 13 {1 a2 a3 {4 a5 {6 a7} 8 a} 9 a0 { a} {\cmd}
                                                                                                                                                                                                                      5\{6\a 7\}8\a
                                                                                                                              \detokenize\expandafter{\cmd}
                                                             \Time 14] {1\a2\a3{4\a5{6\a7}8\a}9\a0}{\a}[\cmd]
                                                                                                                             \detokenize\expandafter{\cmd}
                                                             \Time 15 {1 a2 a3{4 a5{6 a7}8 a}9 a0}{a}[\cmd]
                                                                                                                              \detokenize\expandafter{\cmd}
                                                             \Time 1 = 1 a^{4 a^{6 a^{8a}} (a)} (a) {\time 1 a^{6 a^{8a}}
                                                                                                                             \detokenize\expandafter{\cmd} 0
La macro StrBetween
La commande \StrBetween opère en mode \noexploregroups, quelque soit le mode d'exploration en cours.
                                            \Time 1,3] {\a1\a2{3\a4}5\a6{7\a8}9\a0}{2}{\a}[\cmd]
                                                                                                                              \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                       {3 \ a \ 4}{5}
                                         2{3\a 4}5
                                                                                                                              \detokenize\expandafter{\cmd}
                                           \t [1,3]{\a1\a2{3\a4}5\a6{7\a8}9\a0}{3}{\a}[\cmd]
                                                                                                                             \detokenize\expandafter{\cmd}
                                         \Time [2,4] {\a1\a2{3\a4}5\a6{7\a8}9\a0}{\a}_{\a}[\cmd]
                                                                                                                             \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                      2{3\a 4}5\a 6{7\a 8}9
La macro StrSubstitute
                                                                                                                                                                   \noexploregroups
                                                             \TSubstitute{\a1{2}a{3}a}4\a}\a5\a}{\x}[\cmd]
                                                                                                                                                                                                                      X 1{2\langle a \{3\langle a \}4\langle a \}\rangle X 5\langle X \}
                                                                                                                             \detokenize\expandafter{\cmd}
                                                    \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                       X 1{2\a }{3\a }4\a }X 5\a
                                                                   \StrSubstitute\{a1\{2\a\{3\a\}4\a\}\a5\a\}\{2\}\{X\}[\cmd]
                                                                                                                             \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                      a 1{2\a }3\a }4\a }\a 5\a
```

```
\label{lambda} $$ \StrSubstitute(a1{2\a{3\a}4\a}\a5\a}{{XXX}[\cmd] }
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{2\a }3\a }4\a }\a 5\a
                    \t $$ \strSubstitute{a1{2}a{3}a}4\a}\a5\a}{3\a}{XXX}[\c md]
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{2\a }3\a }4\a }\a 5\a
                   \StrSubstitute{a1{b1\bgroup c1}\egroup d1}{1}{X}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               aX{b1\bgroup c1}\egroup dX
                                                              \exploregroups
                      \t $$ \TSubstitute{a1{2}a{3}a}4\a}\a5\a}{\x}[\cmd]
                                                                               \X 1{2\X }{3\X }4\X \X \X
                                              \detokenize\expandafter{\cmd}
                   \detokenize\expandafter{\cmd}
                                                                               X 1{2X {3\a }4\a }\a 5\a
                        \t $$ \TSubstitute{a1{2}a{3}a}4\a}\a5\a}{2}{X}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{X\a }3\a }4\a }\a 5\a
                  \label{lambda} $$ \operatorname{strSubstitute}_{a1{2}a{3}a}4\a}\a5\a}_{3\a}_{XXX}[\cmd] $$
                                              \detokenize\expandafter{\cmd}
                                                                               a 1{2\a XXX4\a }\a 5\a
                    \label{label} $$ \StrSubstitute(a1{2}a{3}a)4\a}\a5\a}{XXX}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{2\a {XXX}4\a }\a \a 5\a
                   \StrSubstitute{a1{b1\bgroup c1}\egroup d1}{1}{X}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               aX\{bX\setminus bgroup\ cX\}\setminus egroup\ dX
La macro StrDel
                                                            \noexploregroups
                                  \Time \frac{3a}{a} = \frac{1}{2a} 
                                              \detokenize\expandafter{\cmd}
                                                                               1{2\a }{3\a }{4\a }{5}
                               \T [2] {\a1{2}a{3}a}4\a}{a5}a}{\a}[\c md]
                                              \detokenize\expandafter{\cmd}
                                                                               1{2\langle a } {3\langle a } {4\langle a } {5\langle a } 
                                   \Time 1{2\a{3\a}4\a}\a5\a}{2}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{2\a }3\a }4\a }\a 5\a
                               \Time {1{2}a{3}a}4\a}\a5\a}{{3}a}{{cmd}}
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{2\a }3\a \a \a \a \a \a \a \a
                                 \Time {1{2\a{3\a}}4\a}\a5\a}{\cmd}
                                              \detokenize\expandafter{\cmd}
                                                                               \a 1{2\a }{3\a }4\a \a \a \a \a
                                                              \exploregroups
                                  \Time {1{2\a{3\a}}4\a}\a5\a}{\a}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               1\{2\{3\}4\}5
                               \T [2] {\a1{2}a{3}a}4\a}{a5}a}{\a}[\c md]
                                                                               1{2{3\backslash a} }4\backslash a }\a 5\backslash a
                                              \detokenize\expandafter{\cmd}
                                   \Time {1{2}a{3}a}4\a}\a5\a}{2}[\cmd]
                                                                               a 1{a {3\ a} }4\ a}\ a 5\ a
                                              \detokenize\expandafter{\cmd}
                               \Time \frac{3a}{4a} \a5\a}{{3\a}}[\cmd]
                                              \detokenize\expandafter{\cmd}
                                                                               a 1{2\a 4\a }\a 5\a
                                 \Time {1{2\a{3\a}}4\a}\a5\a}{\cmd}
                                              \detokenize\expandafter{\cmd}
                                                                               a 1{2\a }{a } 
La macro StrLen
                                                            \noexploregroups
                                                StrLen{a1{a2}{\a\b}{a3}a4}
                                                                               7
                                                              \exploregroups
```

 $StrLen{a1{a2}{\ab}{a3}a4}$  10

## la macro StrSplit

```
\noexploregroups
                                 \T \sum_{a\in \mathbb{Z}} xx 
                                                                      #\a {\b {\c \d }\e }# #\f \g #
   \#\detokenize\expandafter{\xx}\#\quad\#\detokenize\expandafter{\yy}\#
                                 \T \sum_{a\in \mathbb{Z}} {a(\b{\c\d}\e} {3}\xx\yy}
   \#\detokenize\expandafter{\xx}\#\quad\#\detokenize\expandafter{\yy}\#
                                                                       #\a {\b {\c \d }\e }\f # #\g #
                                                        \exploregroups
                                 \T \sum_{a\in \mathbb{Z}} xx 
   \#\detokenize\expandafter{\xx}\#\quad\#\detokenize\expandafter{\yy}\#
                                                                       #\b # #{\c \d }\e #
                                \f \left( a_{b_{c}} \right) 
   \#\detokenize\expandafter{\xx}\#\quad\#\detokenize\expandafter{\yy}\#
                                                                       #\c # #\d #
la macro StrMid
La commande \StrMid opère en mode \noexploregroups, quelque soit le mode d'exploration en cours.
                               \f(a)_{c\d}\left(2)_{6}[\cmd]
                                                                       b \left( c \right) \left( f \right) 
                                         \detokenize\expandafter{\cmd}
                                \f \ \f \g \h {3}{4} [\cmd]
                                         \detokenize\expandafter{\cmd}
                                                                       { \c \d }\e
La macro StrGobbleLeft
                                                      \noexploregroups
                               \Time {ab{\c\d\e}\f}{3}[\cmd]
                                         \detokenize\expandafter{\cmd}
                                                                       \f
                                                        \exploregroups
                               \T CobbleLeft{\a\b{\c\d\e}\f}{3}[\cmd]
                                                                       \d \e
                                         \detokenize\expandafter{\cmd}
La macro StrGobbleRight
                                                      \noexploregroups
                               \Tilde{\Tilde{A}} \C\d\e}\f}{3} \C\d\e
                                         \detokenize\expandafter{\cmd}
                                                        \exploregroups
                               \Time {\c\d\e}\f}{3}[\c d]
                                         \detokenize\expandafter{\cmd}
La macro StrLeft
                                                      \noexploregroups
                                     \detokenize\expandafter{\cmd}
                                                                       a \ b \ {c \ d \ e }
                                                        \exploregroups
                                     \f(a)b(\c)d\e)f{3}[\c)d
                                         \detokenize\expandafter{\cmd}
La macro StrRight
                                                      \noexploregroups
                                    \Time {ab{cde}\f}{3}[\cmd]
                                                                       b \left( c \right) \left( e \right) f
                                         \detokenize\expandafter{\cmd}
                                                        \exploregroups
                                    \Time {ab{cde}\f}{3}[\cmd]
                                                                       \d \e
                                         \detokenize\expandafter{\cmd}
la macro StrChar
```

\noexploregroups

```
\T (a\b{\c\d\e}\f){3}[\cmd]
                                                                                                                                                                                                                                                                                                                                                                                                                  { \left\{ \left( c \right) \right\} }
                                                                                                                                                                                                                                           \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                                                                                                                            \exploregroups
                                                                                                                                                                                                                    \T \sim \StrChar{\a\b{\c\d\e}\f}{3}[\cmd]
                                                                                                                                                                                                                                          \detokenize\expandafter{\cmd}
La macro StrCount
                                                                                                                                                                                                                                                                                                                  \noexploregroups
                                                                                                                                                                              \T Count{\a1{\a2{\a3\a4}\a5}\a6\a7}{\a}
                                                                                                                                                                                    \t {\a1{\a2{\a3\a4}\a5}\a6\a7}{2}
                                                                                                                                                                                                                                                                                                                            \exploregroups
                                                                                                                                                                               \T {\a1{\a2{\a3\a4}\a5}\a6\a7}{\a}
                                                                                                                                                                                    \T {\a1{\a2{\a3\a4}\a5}\a6\a7}{2}
La macro StrPosition
                                                                                                                                                                                                                                                                                                                  \noexploregroups
                                                                                                                                                         \Times_{3}{\a0\a1{\a2\a3}4}\a5\a6}{\a}
                                                                                                                                                         \space{2.5cm} 
                                                                                                                                                             \space{2} \spa
                                                                                                                                                                                                                                                                                                                            \exploregroups
                                                                                                                                                         \Time \Tim
                                                                                                                                                         \label{label} $$ \StrPosition[4]_{\a0\a1{\a2\a3}4}\a5\a6}_{\a}$
                                                                                                                                                              \sl [1] {\a0\a1{\a2\a3}4}\a5\a6}{2}
La macro StrCompare
La commande \StrCompare n'est pas affectée par le mode d'exploration.
                                                                                                                                                                                                                                                                                                                            \comparenormal
                                                                                                                                                                                                                    \Tc2}{\c2}{\c2}
                                                                                                                                                                                                                                            \StrCompare{{1\a2}3}{{1\a2}3} 0
                                                                                                                                                                                                                                                      \StrCompare{{1\a2}3}{1\a23}
                                                                                                                                                                                                                    \Tcompare{\a{\b\c}}{\a{\b\c}\d}
                                                                                                                                                                                                                                                                \StrCompare{{\a}\b}{\a\b}
                                                                                                                                                                                                                                                                                                                            \comparestrict
                                                                                                                                                                                                                    \Tc2}{\c2}{\c2}
                                                                                                                                                                                                                                           \StrCompare{{1\a2}3}{{1\a2}3} 0
                                                                                                                                                                                                                                                     \Time {1 a2} 3 {1 a2} 
                                                                                                                                                                                                                    \Tcompare{\a{\b\c}}{\a{\b\c}\d}
                                                                                                                                                                                                                                                               \StrCompare{\{\a\}\b}{\{\a\b\}}  1
La macro StrRemoveBraces
                                                                                                                                                                                                                                                                                                                  \noexploregroups
                                                                                                                                                   \label{lem:lemoveBraces} $$ \strRemoveBraces{\a1{\b2{\c3{\d4}}}\e5}[\cmd] $$
                                                                                                                                                                                                                                                                                                                                                                                                                  a 1\b 2{\c 3{\d 4}}\e 5
                                                                                                                                                                                                                                           \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                                                                                                                            \exploregroups
                                                                                                                                                   \label{lem:lemoveBraces} $$ \strRemoveBraces{\a1{\b2{\c3{\d4}}}\e5}[\cmd] $$
                                                                                                                                                                                                                                          \detokenize\expandafter{\cmd}
                                                                                                                                                                                                                                                                                                                                                                                                                  a 1\b 2\c 3\d 4\e 5
```