

# texp API Documentation

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## 1 taxp

DSL for outputting *TeX* expressions using *S*-expressions.

### 1.1 *\*escape-table\** (Variable)

#### Initial Value:

```
((#\& . "\\&") (#\% . "\\%") (#\$ . "\\$") (#\# . "\\#") (#\_ . "\\_")  
  (\#{ . "\\{"} (\#} . "\\}") (#~ . "{\\textasciitilde}")  
  (#^ . "{\\textasciicircum}") (#\\ . "{\\textbackslash}"))
```

#### Description:

*Alist* mapping *TeX* special characters to quoted equivalent.

## 1.2 `deftex` (Macro)

### Syntax:

— Macro: `deftex` *name* *parameters* &*body forms*

*parameters*::= (*{var}*\*)

### Arguments and Values:

*name*—a *symbol* or *string*.

*forms*—*forms*.

*var*—a *symbol*.

### Description:

`deftex` prints the definition of a *TeX* macro with *name* that expands to *forms* to *\*standard-output\**. If *name* is a *symbol* it will be printed in lower case. *Forms* are evaluated as if by `tex` with each *var* in *parameters* bound to a numeric *TeX* parameter identifier.

### Examples:

```
(deftex hello (name) "Hello " ($ name))  
▷ \def \hello #1{Hello #1}
```

## 1.3 `escape` (Function)

### Syntax:

— Function: `escape` *string*

### Arguments and Values:

*string*—a *string*.

### Description:

`escape` encodes *string* as defined by *\*escape-table\**. E.g. it quotes *TeX* special characters.

## 1.4 tex (Macro)

### Syntax:

— Macro: `tex` &rest *expressions*

*expressions*::= ↓*expression*\*

*expression*::= ↓*break-clause* | ↓*interpolation-clause* | ↓*brackets-clause* | ↓*braces-clause* | ↓*tex-clause* | *literal*

*break-clause*::= (br)

*interpolation-clause*::= (\$ *form*)

*brackets-clause*::= ([ ] {*expression*}\*)

*braces-clause*::= ({ } {*expression*}\*)

*tex-clause*::= ( *tex-macro* {*expression*}\*)

### Arguments and Values:

*literal*—a *string*, *symbol* or *number*.

*form*—a *form*.

*tex-macro*—a *symbol* or a *string*.

### Description:

`tex` compiles *TeX expressions* to `*standard-output*`.

A *Literal* is printed as follows:

- a *string* is printed as it is
- a *symbol* is printed in lower case
- a *number* is printed *readably*

A *tex-clause* prints a *TeX* macro call of *tex-macro* followed by *expressions*.

A *break-clause* prints two newlines (e.g. a paragraph separator).

An *interpolation-clause* evaluates *form* and prints its result if the result is a *string*.

*Bracket-clause* and *braces-clause* print *expressions* surrounded by brackets ([, ]) and braces ({, }) respectively. If the *readtable* `texp:syntax` is used then *bracket-clause* and *braces-clause* can be written as [ *expression*\* ] and { *expression*\* }.