

l3erw-csutil*

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Abstract

L^AT_EX3 package defining narrow-purpose control sequences .

1 Usage

<code>\erw_map:Nn</code>	<code>\erw_map:Nn<cs>{<args>}</code>
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See Listing 2. Redundant with `\tl_map_function:nN` (but I use it to access internals in another package).

<code>\erw_map_inline:nn</code>	<code>\erw_map_inline:nn{<code>}{<args>}</code>
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See Listing 3

<code>\erw_apply:Nn</code>	<code>\erw_apply:Nn<cs>{<args>}</code>
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`\erw_apply:cn`

See Listing 3

<code>\erw_fold:NV</code>	<code>\erw_fold:NV<cs><var></code>
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`\erw_fold:cV`

See Listing 5

Listing 1 Initialization

```
\ExplSyntaxOn
\cs_set:Npn \__foo #1 {f(#1)}
\ExplSyntaxOff
```

Listing 2

```
\ExplSyntaxOn
\erw_map:Nn \__foo{{a}{b}{c}}      (a)(b)(c)
\ExplSyntaxOff
```

*This file describes version v0.1, last revised 2018/05/20.

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Listing 3

<code>\ExplSyntaxOn</code>	
<code>\erw_map_inline:nn{</code>	
<code> (#1)}{{a}{b}{c}}</code>	$(a)(b)(c)$
<code>\ExplSyntaxOff</code>	

Listing 4

<code>\ExplSyntaxOn</code>	
<code>\erw_apply:Nn__foo{X}</code>	$f(X)$
<code>\ExplSyntaxOff</code>	

Listing 5

<code>\ExplSyntaxOn</code>	
<code>\tl_set:Nn \l_tmpa_tl{X}</code>	
<code>\erw_fold_set_par:n{Nf}</code>	
<code>\erw_fold_apply_par:n{Nf}</code>	
<code>\erw_fold:NV__foo\l_tmpa_tl</code>	
<code>\l_tmpa_tl</code>	$f(X)$
<code>\cs_set:Npn__bar #1 {g[#1]}</code>	
<code>\erw_fold:cV{__bar}\l_tmpa_tl</code>	
<code>\l_tmpa_tl</code>	$g[f(X)]$
<code>\ExplSyntaxOff</code>	

2 Implementation

```

1 \NeedsTeXFormat{LaTeX2e}
2 \RequirePackage{expl3}[2018/02/21]
3 \ExplSyntaxOn
4 \msg_new:nnn
5   {erw_csutil}
6   {generic}
7   {#1}
8 \cs_set:Npn \erw_cs_set_eq:NN #1 #2
9 {
10   \cs_set:Npn #1 ##1{#2{##1}}
11 }
12 \cs_generate_variant:Nn \erw_cs_set_eq:Nn {c}
13 \cs_set:Npn \erw_cs_set_inline:Nn #1 #2
14 {
15   \cs_set:Npn #1 ##1{#2}
16 }
17 \cs_generate_variant:Nn \erw_cs_set_inline:Nn {c}
18 \cs_set:Npn \erw_map:n #1
19 {
20   \__erw_map:nn#1\q_recursion_tail\q_recursion_stop\q_recursion_tail\q_recursion_stop
21 }
22 \cs_set:Npn \__erw_map:nn #1 #2
23 {
24   \quark_if_recursion_tail_stop:n{#1}
25   \__erw_map:n{#1} \__erw_map:nn{#2}
26 }
27 \cs_new:Npn \__erw_map:n #1
28 {
29   \msg_error:nnn
30     {erw_csutil}
31     {generic}
32     {__erw_map:n~not~set}
33 }
34 \cs_set:Npn \erw_map:Nn
35   #1 % fun
36   #2 % tl
37 {
38   \erw_cs_set_eq:NN \__erw_map:n #1
39   \erw_map:n{#2}
40 }
41 \cs_set:Npn \erw_map_inline:nn
42   #1 % inl
43   #2 % tl
44 {
45   \erw_cs_set_inline:Nn \__erw_map:n {#1}
46   \erw_map:n{#2}
47 }
48 \cs_set:Npn \erw_apply:Nn
49   #1 % fun
50   #2 % tl
51 {
52   #1{#2}

```

```

53 }
54 \cs_generate_variant:Nn \erw_apply:Nn {No, Nf, Nx, c}
55 \tl_set:Nn \__erw_fold_set_par_tl{\c_novalue_tl}
56 \tl_set:Nn \__erw_fold_apply_par_tl{\c_novalue_tl}
57 \cs_set:Npn \erw_fold_set_par:n #1
58 {
59   \tl_set:Nn \__erw_fold_set_par_tl{#1}
60 }
61 \cs_set:Npn \erw_fold_apply_par:n #1
62 {
63   \tl_set:Nn \__erw_fold_apply_par_tl{#1}
64 }
65 \cs_set:Npn \erw_fold:NV
66   #1 % fun
67   #2 % var
68 {
69   \use:c{tl_set:\__erw_fold_set_par_tl}
70     #2
71   {\use:c{erw_apply:\__erw_fold_apply_par_tl}{#1}{#2}}
72 }
73 \cs_generate_variant:Nn \erw_fold:NV {cV}
74 \ExplSyntaxOff

```

References

- [1] The L^AT_EX3 Project Team *l3packages* <http://mirror.ctan.org/macros/latex/contrib/l3packages/>