Floor (integer part) taking an expression evaluating to a c.f. and yielding an integer.

$expr \leftarrow ip\ \{expr\mathbf{:}expr\}$

$\lfloor expr \rfloor \rightarrow$ **match** $expr \mid n + \frac{1}{cont} \rightarrow n$ **else match** $expr \mid m + \circ \rightarrow m$ **else fail**

Fraction part taking an expression evaluating to a c.f. and yielding a c.f.

$expr \leftarrow fp\ \{expr'\mathbf{:}expr\}$

$\{expr'\} \rightarrow$ **match** $expr' \mid n' + \frac{1}{cont'} \rightarrow 0 + \frac{1}{cont'}$ **else match** $expr' \mid m' + \circ \rightarrow 0 + \circ$ **else fail**

Reciprocal for continued fraction values

$expr \leftarrow recip\ \{expr''\mathbf{:}expr\}$

$expr''^{-1} \rightarrow$ **match** $expr'' \mid n'' + \frac{1}{cont''} \rightarrow \left(\textbf{if } n'' = 0 \textbf{ then } cont'' \textbf{ else } 0 + \frac{1}{n'' + \frac{1}{cont''}}\right)$ **else match** $expr'' \mid m'' + \circ \rightarrow 0 + \frac{1}{m'' + \circ}$ **else fail**

Add an integer (on the left) to a continued fraction

$expr \leftarrow plus\ \{int\mathbf{:}expr,\ cf\mathbf{:}expr\}$

$int \oplus^{\text{sym}} cf^{\text{rel}} \rightarrow$ **nil**

Negate for continued fraction values

$expr \leftarrow negate\ \{expr'''\mathbf{:}expr\}$

$-expr''' \rightarrow$ **nil**