α, β
$\underline{\alpha}$, $\underline{\beta}$
x
z
i

$$
\begin{array}{lll}
A,\ B & ::= & \\
 & | & \alpha \\
 & | & 1 \\
 & | & A \times B \\
 & | & \underline{A} \multimap \underline{B} \\
 & & \\
\underline{A},\ \underline{B},\ \underline{C} & ::= & \\
 & | & \underline{\alpha} \\
 & | & !A \otimes \underline{B} \\
 & & \\
s,\ t,\ u & ::= & \\
 & | & x \\
 & | & z \\
 & | & \star \\
 & | & \langle t, u \rangle \\
 & | & \pi_i(t) \\
 & | & \underline{\lambda} z.t \\
 & | & s[t] \\
 & | & !t \otimes u \\
 & | & t\,\mathbf{to}\,(!x \otimes z).u \\
 & & \\
\Gamma & ::= & \\
 & | & \Gamma, t : A \\
 & | & \Gamma, t : A, \Gamma' \\
 & & \\
\Delta & ::= & \\
 & | & - \\
 & | & z : \underline{A} \\
 & & \\
\mathit{terminals} & ::= & \\
 & | & \underline{\lambda} \\
 & | & \vdash^c \\
 & | & \vdash^v \\
 & | & \times \\
 & | & \multimap \\
 & | & \otimes \\
 & | & \langle \\
 & | & \rangle \\
 & | & | \\
 & | & ! \\
 & | & \star \\
 & | & \pi \\
 & & \\
\mathit{formula} & ::= & \\
 & | & \mathit{judgement} \\
 & | & \mathit{formula}_1 \quad .. \quad \mathit{formula}_i \\
 & & \\
\mathit{Jtype} & ::= & \\
 & | & \Gamma \mid - \vdash^v t : B
\end{array}
$$

$$\mid \quad \Gamma \mid \Delta \vdash^{c} t : \underline{B}$$

judgement ::=

$$\mid \quad \mathit{Jtype}$$

user_syntax ::=

$$\mid \quad \alpha$$
$$\mid \quad \underline{\alpha}$$
$$\mid \quad x$$
$$\mid \quad z$$
$$\mid \quad i$$
$$\mid \quad A$$
$$\mid \quad \underline{A}$$
$$\mid \quad s$$
$$\mid \quad \Gamma$$
$$\mid \quad \Delta$$
$$\mid \quad \mathit{terminals}$$
$$\mid \quad \mathit{formula}$$

$\boxed{\Gamma \mid - \vdash^{v} t : B}$

$$\frac{}{\Gamma, x : A, \Gamma' \mid - \vdash^{v} x : A}\ \text{TV\_VAR}$$

$$\frac{}{\Gamma \mid - \vdash^{v} \star : 1}\ \text{TV\_UNIT}$$

$$\frac{\Gamma \mid - \vdash^{v} t : A \quad \Gamma \mid - \vdash^{v} u : B}{\Gamma \mid - \vdash^{v} \langle t, u \rangle : A \times B}\ \text{TV\_PAIR}$$

$$\frac{\Gamma \mid - \vdash^{v} t : A_1 \times A_2}{\Gamma \mid - \vdash^{v} \pi_i(t) : A_i}\ \text{TV\_PROJ}$$

$$\frac{\Gamma \mid z : \underline{A} \vdash^{c} t : \underline{B}}{\Gamma \mid - \vdash^{v} \underline{\lambda} z.t : \underline{A} \multimap \underline{B}}\ \text{TV\_LAM}$$

$\boxed{\Gamma \mid \Delta \vdash^{c} t : \underline{B}}$

$$\frac{}{\Gamma \mid z : \underline{A} \vdash^{c} z : \underline{A}}\ \text{TC\_CVAR}$$

$$\frac{\Gamma \mid - \vdash^{v} s : \underline{A} \multimap \underline{B} \quad \Gamma \mid \Delta \vdash^{c} t : \underline{A}}{\Gamma \mid \Delta \vdash^{c} s[t] : \underline{B}}\ \text{TC\_APP}$$

$$\frac{\Gamma \mid - \vdash^{v} t : A \quad \Gamma \mid \Delta \vdash^{c} u : \underline{B}}{\Gamma \mid \Delta \vdash^{c} !t \otimes u : !A \otimes \underline{B}}\ \text{TC\_TENSOR}$$

$$\frac{\Gamma \mid \Delta \vdash^{c} t : !A \otimes \underline{B} \quad \Gamma, x : A \mid z : \underline{B} \vdash^{c} u : \underline{C}}{\Gamma \mid \Delta \vdash^{c} t\,\mathbf{to}\,(!x \otimes z).u : \underline{C}}\ \text{TC\_SEQ}$$

```
Definition rules:         9 good    0 bad
Definition rule clauses: 19 good    0 bad
```