Funcons-beta: Tuples *

The PLanCompS Project

`Tuples.cbs` | PLAIN | PRETTY

Tuples

[*Datatype* tuples
Funcon tuple-elements
Funcon tuple-zip]

Meta-variables T_1, T_2 <: values
$T_1{}^+$, $T_2{}^+$ <: values$^+$
T^*, $T_1{}^*$, $T_2{}^*$ <: values*

Datatype tuples(T^*) ::= tuple(_ : T^*)

T^* can be any sequence of types, including ( ) and values*.

The values of type tuples($T_1, \cdots, T_n$) are of the form tuple($V_1, \cdots, V_n$) with $V_1 : T_1, \ldots, V_n : T_n$.

Funcon tuple-elements(_ : tuples(T^*)) : ⇒(T^*)
Rule tuple-elements(tuple($V^* : T^*$)) ⇝ V^*

Funcon tuple-zip(_ : tuples(values*), _ : tuples(values*)) : ⇒(tuples(values, values))*

tuple-zip(TV_1, TV_2) takes two tuples, and returns the sequence of pairs of their elements, provided that they have the same length. If they have different lengths, the last elements of the longer sequence are ignored.

Rule tuple-zip(tuple($V_1 : T_1, V_1{}^* : T_1{}^*$), tuple($V_2 : T_2, V_2{}^* : T_2{}^*$)) ⇝
(tuple(V_1, V_2), tuple-zip(tuple($V_1{}^*$), tuple($V_2{}^*$)))
Rule tuple-zip(tuple( ), tuple( )) ⇝ ( )
Rule tuple-zip(tuple($V_1{}^+ : T_1{}^+$), tuple( )) ⇝ ( )
Rule tuple-zip(tuple( ), tuple($V_2{}^+ : T_2{}^+$)) ⇝ ( )

*Suggestions for improvement: `plancomps@gmail.com`.
Reports of issues: `https://github.com/plancomps/CBS-beta/issues`.