BNF description of the PDDL `maut-preferences` requirement

Loïc Bidoux

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This document details the BNF description of the PDDL `maut-preferences` requirement. It should be used along with the PDDL3.1 BNF description [Kov].

References

[Kov] Daniel L. Kovacs. BNF Definition of PDDL3.1. Unpublished manuscript from the IPC-2011 website, 2011.

```
<problem>                   ::= (...
                                [<constraints>]:constraints
                                [<maut-preferences>]:maut-preferences
                                [<metric-spec>]:numeric-fluents
                               ...)



<maut-preferences>          ::=:maut-preferences (:maut-preferences <maut-spec>*)
<maut-spec>                 ::=:maut-preferences (:maut-criterion <maut-criterion>)
<maut-spec>                 ::=:maut-preferences (:choquet-integral <choquet-integral>)



<maut-criterion>            ::=:maut-preferences <numeric-criterion>
<maut-criterion>            ::=:maut-preferences <trajectory-criterion>
<maut-criterion>            ::=:maut-preferences <aggregation-criterion>

<numeric-criterion>         ::=:maut-preferences (:numeric-criterion <maut-criterion-symbol>
                                :attribute <function-term>
                                :utility-function (<function-value>*))

<trajectory-criterion>      ::=:maut-preferences (:trajectory-criterion <maut-criterion-symbol>
                                :preference (<pref-name>))

<aggregation-criterion>     ::=:maut-preferences (:aggregation-criterion <maut-criterion-symbol>
                                :criteria (<maut-criterion-symbol>*)
                                :choquet-integral (<choquet-integral-symbol>))

<function-value>            ::=:maut-preferences (<number>, <number>)
<maut-criterion-symbol>     ::=:maut-preferences <name>



<choquet-integral>          ::=:maut-preferences (:choquet-integral <choquet-integral-symbol>
                                  :mobius (<mobius-capacity-list>*))

<mobius-capacity-list>      ::=:maut-preferences (<maut-criterion-symbol>
                                  [maut-criterion-symbol]* <number>)

<choquet-integral-symbol>   ::=:maut-preferences <name>



<metric-f-exp>              ::=:maut-preferences <choquet-integral-symbol>
```

Figure 1: BNF description of the PDDL `maut-preferences` requirement