Description logic view: DOLCE-QL

Classes

Thing

abstract

abstract $\sqsubseteq \neg$ perdurant
abstract $\sqsubseteq \neg$ quality
abstract $\sqsubseteq \neg$ endurant

abstract-quality

abstract-quality $\sqsubseteq$ quality
abstract-quality $\sqsubseteq \neg$ physical-quality
abstract-quality $\sqsubseteq \neg$ temporal-quality

abstract-region

abstract-region $\sqsubseteq$ region
abstract-region $\sqsubseteq \neg$ temporal-region
abstract-region $\sqsubseteq \neg$ physical-region

accomplishment

accomplishment $\sqsubseteq$ event

achievement

achievement $\sqsubseteq$ event

amount-of-matter

amount-of-matter $\sqsubseteq$ physical-endurant
amount-of-matter $\sqsubseteq \neg$ feature
amount-of-matter $\sqsubseteq \neg$ physical-object

arbitrary-sum

arbitrary-sum $\sqsubseteq$ endurant
arbitrary-sum $\sqsubseteq \neg$ non-physical-endurant
arbitrary-sum $\sqsubseteq \neg$ physical-endurant

dependent-place

dependent-place $\sqsubseteq$ feature

endurant

endurant ⊑ spatio-temporal-particular
endurant ⊑ ∃ participant-in perdurant
endurant ⊑ ¬ quality
endurant ⊑ ¬ perdurant
endurant ⊑ ¬ abstract

event

event ⊑ perdurant

feature

feature ⊑ physical-endurant
feature ⊑ ∃ host physical-endurant
feature ⊑ ¬ amount-of-matter
feature ⊑ ¬ physical-object

non-physical-endurant

non-physical-endurant ⊑ endurant
non-physical-endurant ⊑ ¬ physical-endurant
non-physical-endurant ⊑ ¬ arbitrary-sum

non-physical-object

non-physical-object ⊑ non-physical-endurant
non-physical-object ⊑ ∃ generically-dependent-on physical-endurant

particular

perdurant

perdurant ⊑ spatio-temporal-particular
perdurant ⊑ ∃ has-quality temporal-location_q
perdurant ⊑ ∃ participant endurant
perdurant ⊑ ¬ abstract
perdurant ⊑ ¬ endurant
perdurant ⊑ ¬ quality

physical-endurant

physical-endurant ⊑ ∃ has-quality spatial-location_q
physical-endurant ⊑ ∃ has-quality physical-quality
physical-endurant ⊑ endurant
physical-endurant ⊑ ¬ non-physical-endurant
physical-endurant ⊑ ¬ arbitrary-sum

physical-object

physical-object ⊑ physical-endurant
physical-object ⊑ ¬ amount-of-matter
physical-object ⊑ ¬ feature

physical-quality

physical-quality ⊑ quality
physical-quality ⊑ ∃ inherent-in physical-endurant
physical-quality ⊑ ¬ abstract-quality
physical-quality ⊑ ¬ temporal-quality

physical-region

physical-region ⊑ region
physical-region ⊑ ¬ temporal-region
physical-region ⊑ ¬ abstract-region

process

process ⊑ stative

proposition

proposition ⊑ abstract

quale

quality

quality ⊑ spatio-temporal-particular
quality ⊑ ∃ inherent-in particular
quality ⊑ ¬ endurant
quality ⊑ ¬ abstract
quality ⊑ ¬ perdurant

quality-space

region

region ⊑ Thing

relevant-part

relevant-part ⊑ feature

set

set ⊑ abstract

space-region

space-region $\sqsubseteq$ physical-region

spatial-location$_q$

spatial-location_q $\sqsubseteq$ physical-quality

spatio-temporal-particular

spatio-temporal-particular $\sqsubseteq$ abstract

spatio-temporal-region

spatio-temporal-region $\sqsubseteq$ space-region

state

state $\sqsubseteq$ stative

stative

stative $\sqsubseteq$ perdurant

temporal-location$_q$

temporal-location_q $\sqsubseteq$ temporal-quality

temporal-quality

temporal-quality $\sqsubseteq$ quality
temporal-quality $\sqsubseteq$ $\exists$ inherent-in perdurant
temporal-quality $\sqsubseteq$ $\neg$ abstract-quality
temporal-quality $\sqsubseteq$ $\neg$ physical-quality

temporal-region

temporal-region $\sqsubseteq$ region
temporal-region $\sqsubseteq$ $\neg$ physical-region
temporal-region $\sqsubseteq$ $\neg$ abstract-region

time-interval

time-interval $\sqsubseteq$ temporal-region

Object properties

abstract-location

$\sqsubseteq$ exact-location
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlabstract-location¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.
location-of¿$^-$
$\exists$ abstract-location Thing $\sqsubseteq$ non-physical-endurant
$\top \sqsubseteq \forall$ abstract-location abstract-region

abstract-location-of

$\sqsubseteq$ exact-location-of
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlabstract-location¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.
location-of¿$^-$
$\exists$ abstract-location-of Thing $\sqsubseteq$ abstract-region
$\top \sqsubseteq \forall$ abstract-location-of non-physical-endurant

constant-participant

$\sqsubseteq$ participant
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlconstant-participant-in¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE
participant¿$^-$
$\exists$ constant-participant Thing $\sqsubseteq$ perdurant
$\top \sqsubseteq \forall$ constant-participant endurant

constant-participant-in

$\sqsubseteq$ participant-in
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlconstant-participant-in¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE
participant¿$^-$
$\exists$ constant-participant-in Thing $\sqsubseteq$ endurant
$\top \sqsubseteq \forall$ constant-participant-in perdurant

exact-location

$\sqsubseteq$ generic-location
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlexact-location¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.ow
location-of¿$^-$
$\exists$ exact-location Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ exact-location region

exact-location-of

$\sqsubseteq$ generic-location-of
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlexact-location¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.ow
location-of¿$^-$
$\exists$ exact-location-of Thing $\sqsubseteq$ region

⊤ ⊑ ∀ exact-location-of particular

generic-constituent

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlgeneric-constituent-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-constituent¿⁻
∃ generic-constituent Thing ⊑ particular
⊤ ⊑ ∀ generic-constituent particular

generic-constituent-of

⊑ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlgeneric-constituent-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-constituent¿⁻
∃ generic-constituent-of Thing ⊑ particular
⊤ ⊑ ∀ generic-constituent-of particular

generic-dependent

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlgeneric-dependent¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.dependent-on¿⁻
∃ generic-dependent Thing ⊑ particular
⊤ ⊑ ∀ generic-dependent particular

generic-location

⊑ mediated-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlgeneric-location-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.location¿⁻
∃ generic-location Thing ⊑ particular
⊤ ⊑ ∀ generic-location particular

generic-location-of

⊑ mediated-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlgeneric-location-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.location¿⁻
∃ generic-location-of Thing ⊑ particular
⊤ ⊑ ∀ generic-location-of particular

generically-dependent-on

⊑ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlgeneric-dependent¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.dependent-on¿⁻

∃ generically-dependent-on Thing ⊑ particular
⊤ ⊑ ∀ generically-dependent-on particular

has-quale

⊑ q-location
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhas-quale¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlqu
of¿⁻
∃ has-quale Thing ⊑ quality
⊤ ⊑ ∀ has-quale quale

has-quality

⊑ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlinherent-in¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlha
∃ has-quality Thing ⊑ particular
⊤ ⊑ ∀ has-quality quality

has-t-quality

⊑ has-quality
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlt-inherent-in¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlh
t-quality¿⁻
∃ has-t-quality Thing ⊑ particular
⊤ ⊑ ∀ has-t-quality quality

host

⊑ specifically-constantly-dependent-on
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhost-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhost¿⁻
∃ host Thing ⊑ feature
⊤ ⊑ ∀ host physical-endurant

host-of

⊑ specific-constant-dependent
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhost-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhost¿⁻
∃ host-of Thing ⊑ physical-endurant
⊤ ⊑ ∀ host-of feature

immediate-relation

¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlimmediate-relation-i¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-L
relation¿⁻
∃ immediate-relation Thing ⊑ particular
⊤ ⊑ ∀ immediate-relation particular

immediate-relation-i

¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlimmediate-relation-i¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-L
relation¿⁻
∃ immediate-relation-i Thing ⊑ particular
⊤ ⊑ ∀ immediate-relation-i particular

inherent-in

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlinherent-in¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlha
∃ inherent-in Thing ⊑ quality
⊤ ⊑ ∀ inherent-in particular

life

⊑ constant-participant-in
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owllife¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owllife-of¿⁻
∃ life Thing ⊑ endurant
⊤ ⊑ ∀ life perdurant

life-of

⊑ constant-participant
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owllife¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owllife-of¿⁻
∃ life-of Thing ⊑ perdurant
⊤ ⊑ ∀ life-of endurant

mediated-relation

¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlmediated-relation-i¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lit
relation¿⁻
∃ mediated-relation Thing ⊑ particular
⊤ ⊑ ∀ mediated-relation particular

mediated-relation-i

¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlmediated-relation-i¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lit
relation¿⁻
∃ mediated-relation-i Thing ⊑ particular
⊤ ⊑ ∀ mediated-relation-i particular

overlaps

⊑ mediated-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owloverlaps¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owloverla
∃ overlaps Thing ⊑ particular
⊤ ⊑ ∀ overlaps particular

participant

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlparticipant¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlpa
in¿⁻
∃ participant Thing ⊑ perdurant
⊤ ⊑ ∀ participant endurant

participant-in

⊑ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlparticipant¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlpa
in¿⁻
∃ participant-in Thing ⊑ endurant
⊤ ⊑ ∀ participant-in perdurant

partly-compresent

⊑ mediated-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlpartly-compresent¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite
compresent¿⁻
∃ partly-compresent Thing ⊑ particular
⊤ ⊑ ∀ partly-compresent particular

physical-location

⊑ exact-location
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlphysical-location¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.
location-of¿⁻
∃ physical-location Thing ⊑ physical-endurant
⊤ ⊑ ∀ physical-location physical-region

physical-location-of

⊑ exact-location-of
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlphysical-location¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.
location-of¿⁻
∃ physical-location-of Thing ⊑ physical-region
⊤ ⊑ ∀ physical-location-of physical-endurant

q-location

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlq-location¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlq-lo
of¿⁻
∃ q-location Thing ⊑ quality
⊤ ⊑ ∀ q-location region

q-location-of

⊑ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlq-location¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlq-location-of¿⁻
∃ q-location-of Thing ⊑ region
⊤ ⊑ ∀ q-location-of quality

q-present-at

⊑ mediated-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltime-of-q-presence-of¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-present-at¿⁻
∃ q-present-at Thing ⊑ physical-quality
⊤ ⊑ ∀ q-present-at time-interval

quale-of

⊑ q-location-of
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhas-quale¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlquale-of¿⁻
∃ quale-of Thing ⊑ quale
⊤ ⊑ ∀ quale-of quality

r-location

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlr-location¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlr-location-of¿⁻
∃ r-location Thing ⊑ region
⊤ ⊑ ∀ r-location region

r-location-of

⊑ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlr-location¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlr-location-of¿⁻
∃ r-location-of Thing ⊑ region
⊤ ⊑ ∀ r-location-of region

sibling-part

⊑ mediated-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlsibling-part¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlsibling-part¿⁻
∃ sibling-part Thing ⊑ particular
⊤ ⊑ ∀ sibling-part particular

spatio-temporal-presence-of

$\sqsubseteq$ exact-location-of
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspatio-temporal-presence-of¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspatio-temporally-present-at¿$^-$
$\exists$ spatio-temporal-presence-of Thing $\sqsubseteq$ spatio-temporal-region
$\top \sqsubseteq \forall$ spatio-temporal-presence-of particular

spatio-temporally-present-at

$\sqsubseteq$ exact-location
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspatio-temporal-presence-of¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspatio-temporally-present-at¿$^-$
$\exists$ spatio-temporally-present-at Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ spatio-temporally-present-at spatio-temporal-region

specific-constant-constituent

$\sqsubseteq$ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecific-constant-constituent¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecific-constant-constituent-of¿$^-$
$\exists$ specific-constant-constituent Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ specific-constant-constituent particular

specific-constant-constituent-of

$\sqsubseteq$ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecific-constant-constituent¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecific-constant-constituent-of¿$^-$
$\exists$ specific-constant-constituent-of Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ specific-constant-constituent-of particular

specific-constant-dependent

$\sqsubseteq$ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecific-constant-dependent¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecifically-constantly-dependent-on¿$^-$
$\exists$ specific-constant-dependent Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ specific-constant-dependent particular

specifically-constantly-dependent-on

$\sqsubseteq$ immediate-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecific-constant-dependent¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlspecifically-constantly-dependent-on¿$^-$
$\exists$ specifically-constantly-dependent-on Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ specifically-constantly-dependent-on particular

strong-connection

$\sqsubseteq$ mediated-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlstrong-connection¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlstrong-connection¿$^{-}$
$\exists$ strong-connection Thing $\sqsubseteq$ particular
$\top \sqsubseteq \forall$ strong-connection particular

t-inherent-in

$\sqsubseteq$ inherent-in
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlt-inherent-in¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlhas-t-quality¿$^{-}$
$\exists$ t-inherent-in Thing $\sqsubseteq$ quality
$\top \sqsubseteq \forall$ t-inherent-in particular

temporary-participant

$\sqsubseteq$ participant
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltemporary-participant¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltemporary-participant-in¿$^{-}$
$\exists$ temporary-participant Thing $\sqsubseteq$ perdurant
$\top \sqsubseteq \forall$ temporary-participant endurant

temporary-participant-in

$\sqsubseteq$ participant-in
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltemporary-participant¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltemporary-participant-in¿$^{-}$
$\exists$ temporary-participant-in Thing $\sqsubseteq$ endurant
$\top \sqsubseteq \forall$ temporary-participant-in perdurant

time-of-q-presence-of

$\sqsubseteq$ mediated-relation-i
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltime-of-q-presence-of¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlq-present-at¿$^{-}$
$\exists$ time-of-q-presence-of Thing $\sqsubseteq$ time-interval
$\top \sqsubseteq \forall$ time-of-q-presence-of physical-quality

total-constant-participant

$\sqsubseteq$ constant-participant
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltotal-constant-participant¿ $\equiv$ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltotal-constant-participant-in¿$^{-}$
$\exists$ total-constant-participant Thing $\sqsubseteq$ perdurant
$\top \sqsubseteq \forall$ total-constant-participant endurant

total-constant-participant-in

⊑ constant-participant-in
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltotal-constant-participant¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOL
Lite.owltotal-constant-participant-in¿⁻
∃ total-constant-participant-in Thing ⊑ endurant
⊤ ⊑ ∀ total-constant-participant-in perdurant

total-temporary-participant

⊑ temporary-participant
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltotal-temporary-participant-in¿ ≡ ¡http://www.loa-cnr.it/ontologies/
Lite.owltotal-temporary-participant¿⁻
∃ total-temporary-participant Thing ⊑ perdurant
⊤ ⊑ ∀ total-temporary-participant endurant

total-temporary-participant-in

⊑ temporary-participant-in
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owltotal-temporary-participant-in¿ ≡ ¡http://www.loa-cnr.it/ontologies/
Lite.owltotal-temporary-participant¿⁻
∃ total-temporary-participant-in Thing ⊑ endurant
⊤ ⊑ ∀ total-temporary-participant-in perdurant

weak-connection

⊑ immediate-relation
¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.owlweak-connection¿ ≡ ¡http://www.loa-cnr.it/ontologies/DOLCE-Lite.o
connection¿⁻
∃ weak-connection Thing ⊑ particular
⊤ ⊑ ∀ weak-connection particular

Data properties

Individuals

Datatypes

string