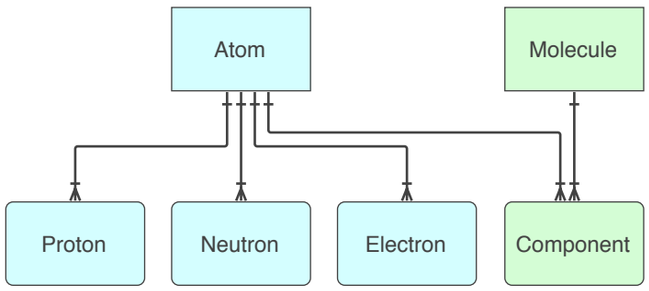
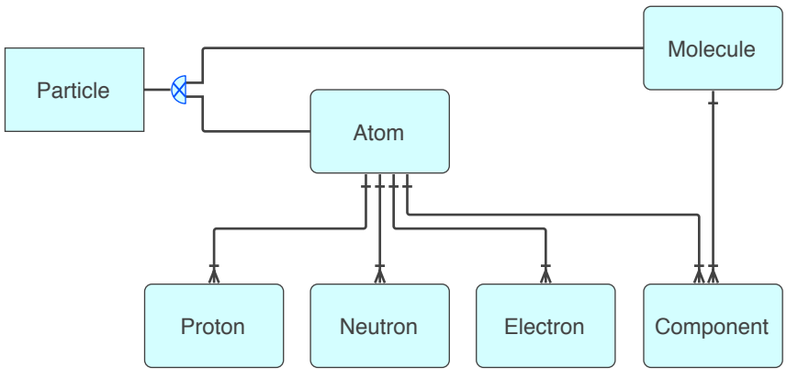
Molecule

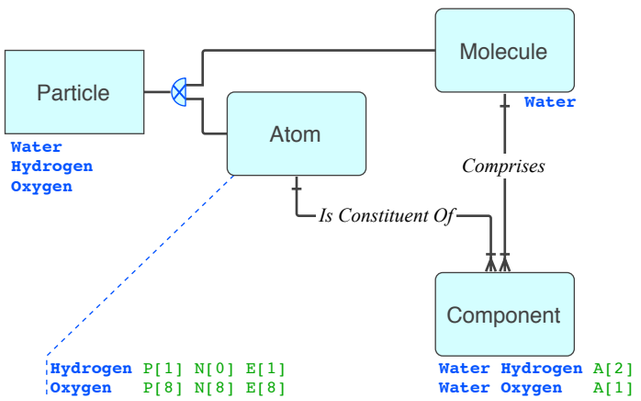
A First



B Subtype



C Reduced



Relevant Predicate

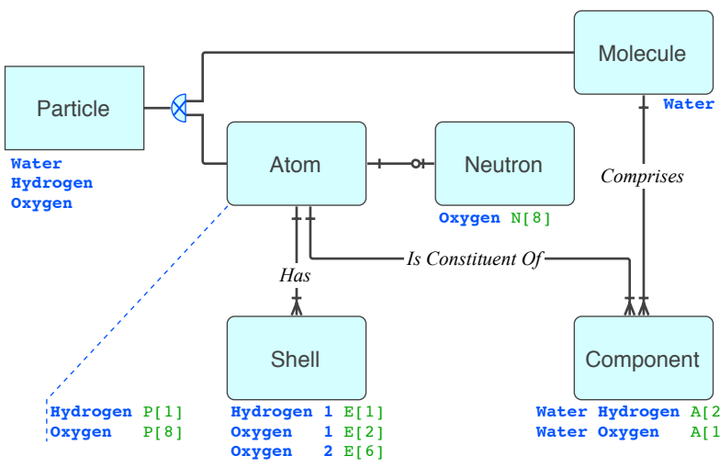
```
Atom is an exclusive subtype of Particle
    Atom is 1 Particle
    Atom is identified by ( AtomName )
    Atom is described by ( NumProton, NumNeutron, NumElectron )
    Atom is a constituent of 0-to-n [Molecule]Components

Component is dependent on, and identified by, Molecule
    Component is a constituent of 1 Molecule
    Component is dependent on, and identified by, Atom
    Component consists of 1 Atom
    Component is identified by ( MoleculeName, AtomName )
    Component is described by ( NumAtom )

Molecule is an exclusive subtype of Particle
    Molecule is 1 Particle
    Molecule is identified by ( MoleculeName )
    Molecule comprises  0-to-n [Atom]Components

Particle is independent
    Particle is identified by ( Particle )
    Particle is an exclusive basetype
    Particle is one of { Atom | Molecule }
```

D Normalised



Relevant Predicate

```
Atom is an exclusive subtype of Particle
    Atom is 1 Particle
    Atom is primarily   identified by ( AtomName )
    Atom is alternately identified by ( Symbol )
    Atom is alternately identified by ( AtomicNumber )
    Atom is described by ( NumProton )
    Atom has 0-or-1 Neutron
    Atom has 0-to-n Shells
    Atom is a constituent of 0-to-n [Molecule]Components

Component is dependent on, and identified by, Molecule
    Component is a constituent of 1 Molecule
    Component is dependent on, and identified by, Atom
    Component consists of 1 Atom
    Component is identified by ( MoleculeName, AtomName )
    Component is described by ( NumAtom )

Molecule is an exclusive subtype of Particle
    Molecule is 1 Particle
    Molecule is identified by ( MoleculeName )
    Molecule comprises 0-to-n [Atom]Components

Neutron is dependent on, and identified by, Atom
    Neutron belongs to 1 Atom
    Neutron is identified by ( AtomName )
    Neutron is described by ( NumNeutron )

Particle is independent
    Particle is identified by ( ParticleName )
    Particle is an exclusive basetype
    Particle is one of { Atom | Molecule }

Shell is dependent on, and identified by, Atom
    Shell belongs to 1 Atom
    Shell is identified by ( AtomName, ShellNo )
    Shell is described by ( NumElectron )
```

Table Type

- Reference
- Identifier
- Transaction

IDEF1X Notation

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