Prime specification

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November 10, 2019

First revision: November, 2019

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https://github.com/bayship-org/mathematics

1 Prerequisite definitions

GitHub:Minor_of_memBer.pdf

In the article above, in its first two pages, all prerequisite definitions for this article are given. Especially, the second page of the above article defines that:

- A **memBer** as a member of a set.
- A deep member y of a memBer x is calcurated **the deep number relative to** x.
- Two memBers (x, y) are said (x is a **minor** of y).

2 Notations

Definition 2.1.
"And" is also written as " $_{and}\wedge$ ".
"Or" is also written as " $_{or}\vee$ ".

$(x \ _{and}\wedge\ y)$ is not commutative because y possibly depends on x.
$(x \ _{or}\vee\ y)$ is not commutative because y possibly depends on $\neg x$. ■

3 Introduction

All definition D of variables is said a **variable context**.
More precisely, D must be a sequence of sub definitions of which each defines

exactly one variable. And all terms of D must be pairwise in order of dependencies, i.e., the dependent appears later.
All variable context V is said **independent** if all term is only dependent of terms in V.
All independent variable context V is also said an **antecedent context**.
All variable context V is said a **consequent context** of an antecedent context A if ((A followed by C) is independent as a new variable context).

In the rest of this section, take $\forall(A, C)$ as an antecedent context A and a consequent context C of A.

Take $\forall x$ as a variable of A. Then x is said **specified** if x represents exactly one entity.
For example, $x := 1$ then x is said specified; $\forall x :\in \mathbb{N}$ then x is not specified; let x be a point then x is not specified.

Take $\forall x$ as a variable of C. Then x is said **specified relatively to** A if (x represents exactly one entity if you assume that all variables of A are specified).
For example, let A define $\forall n :\in \mathbb{N}$ and C define $x := n + 1$. Then x is specified relatively to A because if n had been specified in A then x represented exactly one natural number.

Take $\forall(x, y)$ as (a variable x of C) and (a deep member y of x such that y's deep number relative to x is countable). Then y is said specified relatively to A if x is specified relatively to A.

Take $\forall x$ as a variable of C such that x is specified relatively to A.
Then x is said **primary specified relatively to** A if $\neg(*1 \ {}_{and}\wedge\ *2\ {}_{and}\wedge\ *3)$.

1. x [1]is a set.

2. There exists $\exists N :\subset \mathbb{N}$ as a countable index set.

3. There exists $\exists\{S\}_{i\in N}$ as a collection of sets bijectively indexed by N such that (*a1 $\ {}_{and}\wedge$ ..... $\ {}_{and}\wedge$ *a3).

a1. $x = \bigcup_{i\in N} S_i$

[1] As a value, x is a set.

a2. Take $\forall(i,j) :\in N$. Then ($S_i \cap S_j \neq \varnothing \ {}_{or}\!\vee\ i \neq j$).

a3. Take $\forall i :\in N$. Then C specifies S_i relatively to A.

For example, let A define (X,T,M) as the Euclidean space of 2-dimension where needless to say no absolute coordinate system is defined.
Then (C probably can define x to be prime)
as x:="the set of all topological equivalences of a line segment in (X,T,M)".

4 Conjecture

Conjecture 4.1 (Conjecture)**.**
Take $\forall(n,X,T,M)$ as the Euclidean space (X,T,M) of n-dimension where X is the space, T is the topology and M is the metric table.
As a remark, for the set of all orthogonal coordinate systems for the space, no special member is defined.
Let $A := (n,X,T,M)$.
Take all (C,x) as a consequent context C of A as the antecedent context and a variable x of C.
If *1 holds then x is a minor of T.

1. x is primary specified relatively to A.

5 Examples

This section just gives examples of substituting actual values into variables of the main conjecture.

Definition 5.1 (Unknot)**.**
Refer to the main conjecture for (n,X,T,M).
Take $\forall k1$ as an unknot such that $\mathrm{Space}(k1) \subset X$.
For the main conjecture, this example substitutes values
into (n,x) as (*1 ${}_{and}\!\wedge$ ..... ${}_{and}\!\wedge$ *7).

1. Let $n := 3$.

2. Let $K := \{k \mid ((T,k),(T,k1))$ are isomorphic $\}$.

3. Take $\forall k :\in K$.

4. $f1(k) := \{d \mid d$ is a proper knot diagram of $k\}$.

5. $f2(k) := \{r \mid$
$\exists d :\in f1(k) \quad {}_{and}\wedge$
r is the number of crossings on d
$\}$.

6. $f(k) :=$ "the maximum number of $f2(k)$.

7. $x := \{k \mid f(k) = f(k1)\}$.

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