My formalization project

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Chapter 1

Basic Definitions and Lemmas

1.1 Vectors

Lemma 1.1.1. *For any vector* $v : \mathrm{Fin}\, 2 \to \mathbb{N}$*, we have* $v = ![v(0), v(1)]$.

Proof. ☐

1.2 Theories

Lemma 1.2.1. *The theory of linear orders is a subset of DLO.*

Proof. ☐

Lemma 1.2.2. *The theory of linear orders contains the reflexivity sentence.*

Proof. ☐

Lemma 1.2.3. *The theory of linear orders contains the transitivity sentence.*

Proof. ☐

Lemma 1.2.4. *The theory of linear orders contains the antisymmetry sentence.*

Proof. ☐

Lemma 1.2.5. *The theory of linear orders contains the totality sentence.*

Proof. ☐

Lemma 1.2.6. *Models of the theory of linear orders realize the reflexivity sentence.*

Proof. ☐

Lemma 1.2.7. *Models of the theory of linear orders realize the transitivity sentence.*

Proof. ☐

Lemma 1.2.8. *Models of the theory of linear orders realize the antisymmetry sentence.*

Proof. ☐

Lemma 1.2.9. *Models of the theory of linear orders realize the totality sentence.*

Proof. □

Lemma 1.2.10. *The theory DLO contains the reflexivity sentence.*

Proof. □

Lemma 1.2.11. *The theory DLO contains the transitivity sentence*

Proof. □

Lemma 1.2.12. *The theory DLO contains the antisymmetry sentence.*

Proof. □

Lemma 1.2.13. *The theory DLO contains the totality sentence.*

Proof. □

Lemma 1.2.14. *Models of the theory DLO realize the reflexivity sentence.*

Proof. □

Lemma 1.2.15. *Models of the theory DLO realize the transitivity sentence.*

Proof. □

Lemma 1.2.16. *Models of the theory DLO realize the antisymmetry sentence.*

Proof. □

Lemma 1.2.17. *Models of the theory DLO realize the totality sentence.*

Proof. □

Lemma 1.2.18. *Models of DLO are also models of the theory of linear orders.*

Proof. □

1.3 Instances

Definition 1.3.1. *Any structure of an ordered language is an ordered set.*

Definition 1.3.2. *statement of your definition*

Definition 1.3.3. *statement of your definition*

Definition 1.3.4. *A language is binary relational if it has onyl binary relation symbols.*

Lemma 1.3.5. *The canonical ordered language consisting of a single binary relation $\leq$ is a binary relational language.*

Proof. □

1.4 Structures

Lemma 1.4.1. *Structures of a relational language have equal function maps.*

Proof. □

Lemma 1.4.2. *Two structures of a relational language are equal if and only if they agree on the interpretation of all relation symbols.*

Proof. □

Lemma 1.4.3. *Two structures of a binary relational language have equal relation maps if and only if they agree on the interpretation of all binary relation symbols.*

Proof. □

Lemma 1.4.4. *Two structures of a binary relational language are equal if and only if they agree on the interpretation of all binary relation symbols.*

Proof. □

Lemma 1.4.5. *statement of your lemma*

Proof. □

Chapter 2

Main Results

Theorem 2.0.1. *The theory of dense linear orders without endpoints is $\aleph_0$-categorical.*

Proof. $\square$