



**FACULTY
OF MATHEMATICS
AND PHYSICS**
Charles University

BACHELOR THESIS

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Introduction

CSV files (Comma Separated Value files) are common way of exchanging and converting data between various spreadsheet programs. Shafranovich [2005] Database refers to a set of related data accessed through the use of a database management system. Wikipedia contributors [2024a] Through this definition, we can see even a simple collection of CSV files accessed through some programs may be seen as an database itself.

SQL (Structured Query Language) is language used to manage data, especially in a relational database management system. Wikipedia contributors [2024b] It was first introduced at 1970s Wikipedia contributors [2024b] and is one of the most used query languages. Despite being standardized at 1987 by International Organization for Standardization ISO [1987], there are virtually no implementations adhere to it fully. Wikipedia contributors [2024b] Standard SQL is a typed language (Every data value belongs to some data type) ISO [2023] and the language design is therefore not much suitable for type-less databases like a collection of CSV files. Despite that, there are some implementations of SQL (eg. q q [2024]), which tries to implement SQL on CSV files.

SQL itself requires large amount of text to be written for running even a simple queries and Unix ecosystem misses a tool¹, which would allowed running a short enough queries over CSV files with similar semantics like SQL has. And this is the reason, why lsq-csv was created.

Haskell is a language with great features for working with text Mena [2019] and therefore it was selected for the task of implementation of lsq-csv.

¹Or author don't know about it

1. Title of the first chapter

An example citation: Anděl [2007]

1.1 Title of the first subchapter of the first chapter

1.2 Title of the second subchapter of the first chapter

2. Title of the second chapter

2.1 Title of the first subchapter of the second chapter

2.2 Title of the second subchapter of the second chapter

Conclusion

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A. Attachments

A.1 First Attachment