



Zürich, May, 2019

Basic Module (3 KP)
Datenbanktechnologie

Topic: Implementing Self Addition Inside MonetDB

The goal of the Basic Module is to use and extend the structures that are used in MonetDB during query processing and execution: relation tree, statement tree, MAL plan. The task is to implement a self addition of a one-attribute relation. Self addition takes a relation r with one numeric attribute and returns a relation with one numeric attribute where all values from r are added to itself.

r	r'
A	A
3	6
9	18
2	4

Table 1: Applying self addition

Example 1 *Picture 1 illustrates how self addition is applied to relation r with numeric attribute A . Result relation r' also has one attribute A with self added values.*

The module includes the following steps:

1. Implement a parser extension with the new command, where r is a relation with one numeric attribute A : "SELECT * FROM add r;"
2. Extend the relational tree with the new node representing self addition.
3. Implement the translation from a self addition node of a relational tree to a statement tree.
4. Implement the translation of a statement tree of self addition to a MAL plan.



5. Write a report (approximately 5 pages) and hand it in before 24.06.2019.

University of Zürich
Department of Informatics

A handwritten signature in black ink, appearing to be 'M. Böhlen', written over the department name.

Prof. Dr. Michael Böhlen