Exercises for *Transaction Systems*, summer term 2017
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http://www-db.in.tum.de/teaching/ss17/transactions/

Sheet No. 2

Info
- Due date: May 12, 3pm.
- Please send your solution via e-mail, and prefix the subject with [transactions].
- Please include your Matrikelnummer and your name.

**Exercise 1 (9 points)** Given the schedule

\[ s = r_1(x) \, r_3(x) \, w_3(y) \, w_2(x) \, c_3 \, r_4(y) \, w_4(x) \, c_2 \, r_5(x) \, c_4 \, w_5(z) \, w_1(z) \, c_1 \, c_5 \]

For some transactions, the function computed by the write step is the identity function in one of its arguments (*copier*):

\[ f_{ix}(v_1, \ldots, v_m) = v_j \text{ for some } j \]

Compute the Herbrand semantics of \( s \) given that \( t_3 \) and \( t_4 \) are copiers.

**Exercise 2 (6 points)** Given the schedule

\[ s = r_1(x) \, r_3(x) \, w_3(y) \, w_2(x) \, r_4(y) \, c_2 \, w_4(x) \, c_4 \, r_5(x) \, c_3 \, w_5(z) \, c_5 \, w_1(z) \, c_1 \]

Does it belong to FSR? CSR?