Transaktionssysteme – Übungsblatt 2

Gruppe 1, Team Zoidberg

Koppera Thomas 51366 | Kinseher Josef | Treuberg Matthias 51164

Aufgabe 1

a) $S := w_0(x)w_0(y)w_0(z)r_1(y)r_2(y)w_1(y)r_3(z)r_2(x)w_2(x)w_1(x)c_1c_2c_3$

$$
\begin{aligned}
H_S(w_0(x)) &= f_0^x() \\
H_S(w_0(y)) &= f_0^y() \\
H_S(w_0(z)) &= f_0^z() \\
H_S(r_1(y)) &= H_S(w_0(y)) = f_0^y() \\
H_S(r_2(y)) &= H_S(w_0(y)) = f_0^y() \\
H_S(w_1(y)) &= H_S(r_1(y), r_2(y)) = f_1^y(f_0^y(), f_0^y()) \\
H_S(r_3(z)) &= H_S(w_0(z)) = f_0^z() \\
H_S(w_3(z)) &= H_S(r_3(z)) = f_3^z(f_0^z()) \\
H_S(r_2(x)) &= H_S(w_0(x)) = f_0^x() \\
H_S(w_2(x)) &= H_S(r_2(x)) = f_2^x(f_0^x()) \\
H_S(w_1(x)) &= H_S(r_2(x)) = f_1^x(f_0^x())
\end{aligned}
$$

b)

Aufgabe 2

$S := w_0(x)w_0(y)w_0(z)c_0r_1(x)r_2(x)w_2(y)r_3(x)c_1r_2(z)w_3(z)c_3w_2(z)c_2$

a)

$$
\begin{aligned}
H_S(w_0(x)) &= f_0^x() \\
H_S(w_0(y)) &= f_0^y() \\
H_S(w_0(z)) &= f_0^z() \\
H_S(r_1(x)) &= H_S(w_0(x)) = f_0^x() \\
H_S(r_2(x)) &= H_S(w_0(x)) = f_0^x() \\
H_S(w_2(y)) &= f_2^y() \\
H_S(r_3(x)) &= H_S(w_0(x)) = f_0^x() \\
H_S(r_2(z)) &= H_S(w_0(z)) = f_0^z() \\
H_S(w_3(z)) &= H_S(r_2(z)) = f_3^z(f_0^z()) \\
H_S(w_2(z)) &= H_S(r_2(z)) = f_2^z(f_0^z())
\end{aligned}
$$

b)

$$
\begin{aligned}
H[S](x) &= H_S(w_0(x)) = f_0^x() \\
H[S](y) &= H_S(w_2(y)) = f_2^y() \\
H[S](z) &= H_S(w_2(z)) = f_2^z(f_0^z())
\end{aligned}
$$

c) $S' := w_0(x)w_0(y)w_0(z)c_0w_2(y)c_1r_2(z)c_3w_2(z)c_2$

d) Nein da $op(S) \neq op(S')$

Aufgabe 3

a) $H_S(w_3(z)) = f_3^z(f_0^z())$

b)

c)

d)

Aufgabe 4

a)

b)