

# Transaktionssysteme – Übungsblatt 2

## Gruppe 1, Team Zoidberg

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### Aufgabe 1

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

$$H_S(w_0(x)) = f_0^x()$$

$$H_S(w_0(y)) = f_0^y()$$

$$H_S(w_0(z)) = f_0^z()$$

$$H_S(r_1(y)) = H_S(w_0(y)) = f_0^y()$$

$$H_S(r_2(y)) = H_S(w_0(y)) = f_0^y()$$

$$H_S(w_1(y)) = H_S(r_1(y), r_2(y)) = f_1^y(f_0^y(), f_0^y())$$

$$H_S(r_3(z)) = H_S(w_0(z)) = f_0^z()$$

$$H_S(w_3(z)) = H_S(r_3(z)) = f_3^z(f_0^z())$$

$$H_S(r_2(x)) = H_S(w_0(x)) = f_0^x()$$

$$H_S(w_2(x)) = H_S(r_2(x)) = f_2^x(f_0^x())$$

$$H_S(w_1(x)) = H_S(r_2(x)) = f_1^x(f_0^x())$$

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

### Aufgabe 3

a)

### Aufgabe 4

a)

b)