Assignment 1: When is a schedule recoverable, will cascading aborts be avoided and is a schedule called strict? When would you use the different concepts?

Assignment 2: Test the following schedules for RC, ACA, and strictness.

\[
\begin{align*}
    s_1 &= r_1(x)w_1(x)r_2(x)r_3(z)w_3(x)r_1(z)c_1c_2c_3 \\
    s_2 &= w_2(x)w_2(y)r_1(x)r_1(y)w_1(y)c_1r_2(y)c_2 \\
    s_3 &= r_1(x)w_1(x)r_2(y)w_2(y)r_1(y)c_1r_2(x)c_2 \\
    s_4 &= w_1(y)w_2(y)r_2(y)r_1(x)w_3(z)c_1c_2c_3 \\
    s_5 &= r_1(x)w_1(x)c_1r_2(y)r_3(y)w_2(x)c_2w_3(x)c_3 \\
    s_6 &= w_2(x)w_1(x)w_1(y)w_2(y)c_2w_1(y)c_1w_3(z)c_3 \\
    s_7 &= w_2(x)w_2(y)r_1(x)r_1(y)w_1(y)w_3(z)c_2c_1c_3 \\
    s_8 &= w_1(x)r_2(x)w_2(z)r_3(z)w_3(y)c_3w_1(y)c_1c_2 \\
    s_9 &= w_2(x)r_2(y)r_1(x)r_1(y)w_1(y)c_1r_2(y)c_2 \\
    s_{10} &= r_1(x)w_1(x)w_2(x)w_3(z)r_3(y)r_3(x)c_1c_2c_3
\end{align*}
\]

Assignment 3: Explain the components of a transaction management. Which two types of scheduler exist? When would you use the different types of scheduler?

Assignment 4: Consider the following schedules:

\[
\begin{array}{|c|c|c|}
\hline
& T_1 & T_2 & T_3 \\
\hline
s_1: & r_1(x) & r_2(y) & r_3(z) \\
& w_1(x) & r_2(x) & r_3(x) \\
& w_2(z) & w_3(z) & c_1 \\
& c_1 & c_2 & c_3 \\
\hline
s_2: & r_1(x) & r_2(y) & r_2(y) \\
& w_1(x) & w_2(y) & w_2(y) \\
& r_1(y) & r_2(x) & r_2(x) \\
& w_1(y) & w_2(x) & w_2(x) \\
& c_1 & c_2 & c_2 \\
\hline
s_3: & r_1(x) & r_2(y) & r_2(y) \\
& w_1(x) & w_2(y) & w_2(y) \\
& r_1(y) & r_2(x) & r_2(x) \\
& w_1(y) & w_2(x) & w_2(x) \\
& c_1 & c_2 & c_2 \\
\hline
\end{array}
\]

Which properties do the above schedules have?

Assignment 5: Consider the schedules of the previous assignment. Which of the following concepts can be applied to the schedules:

Exercise 4
• Lock-model
• Two-Phase-Locking protocol (2PL)
• strict Two-Phase-Locking protocol (S2PL)
• conservative Two-Phase-Locking protocol (C2PL)