If we ignore time, then
\[
\begin{align*}
\text{x} := 3. \quad \text{y} := 4 & \quad \equiv \quad \text{x} := 3 \quad \parallel \quad \text{y} := 4
\end{align*}
\]
Some sequential compositions could be executed concurrently if we ignore time. But the time for \( P.Q \) is the sum of the times for \( P \) and \( Q \), and that forces the execution to be sequential.
\[
\begin{align*}
t := t + 1. \quad t := t + 2 & \quad \equiv \quad t := t + 3
\end{align*}
\]
Likewise some concurrent compositions could be executed sequentially, ignoring time. But the time for \( P || Q \) is the maximum of the times for \( P \) and \( Q \), and that forces the execution to be concurrent.
\[
\begin{align*}
t := t + 1 \quad || \quad t := t + 2 & \quad \equiv \quad t := t + 2
\end{align*}
\]
Invent another form of composition, intermediate between sequential and concurrent composition, whose execution is sequential to the extent necessary, and concurrent to the extent possible.

§ We need a symbol for this kind of composition; let's say \( \star \) with the same precedence as \( \parallel \). Suppose the variables are \( x \) and \( y \), plus time \( t \). Suppose time is measured as assignment count. We want to define \( \star \) such that
\[
\begin{align*}
x := 2 \quad \star \quad y := 3 & \quad \equiv \quad x := 2 \quad \parallel \quad y := 3 \quad \equiv \quad x' := 2 \land y' := 3 \land t' := t + 1 \\
x := 2 \quad \star \quad x := 3 & \quad \equiv \quad x := 2. \quad x := 3 \quad \equiv \quad x' := 3 \land y' := y \land t' := t + 2
\end{align*}
\]
If you figure out how to do that, please let me know.