2(4) \( x := x + y \) means set “\( x \) equal to \( x + y \)”. In a serial computer, the instructions below are done in order as shown. In a parallel computer in which more than one instruction can be done at a time, some of the instructions can be done simultaneously without changing the final answer. Draw a line from instruction A to instruction B if A must be done before B (careful, don’t change a variable if a previous value is needed). Heavily mark a critical path. Give the minimum time required to complete all instructions on a parallel computer. The instructions with a “+” require 2 units of time; the other instructions require 1 unit of time. If A→B and B→C, then omit the A→C arrow (A is not an immediate predecessor of B). Label the arrows with the appropriate units of time. There should be 9 arrows.

\[
\begin{align*}
\text{Start} & \quad x := 0 & \quad x := x + 1 & \quad y := 2 & \quad z := y & \quad x := x + z & \quad y := x + z & \quad z := 4 & \quad \text{End}
\end{align*}
\]

Minimum time =