

2023.4

$$1.1) T_{pipe} = t_{mem} + t_{delay} = 2 \text{ ns}$$

$$2) S = \frac{T_{pipe}}{T_{cycle}} \approx \frac{CPI_{pipe}}{CPI_{cycle}} = 0.3$$

3) 假设为无分支的流水线，每一段耗时约0.1ns，则 $T_{pipe} = t_{delay} = 0.1 \text{ ns}$

$$4) S = \frac{1}{70} \approx 0.0142$$