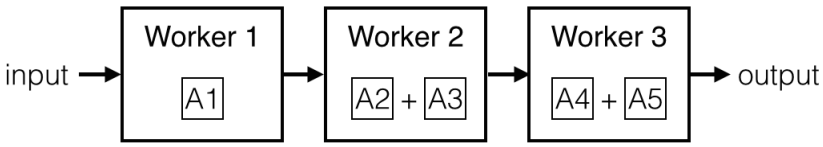
Recipe 1: Processes

Step 0: Draw a process flow diagram

Example 0: Resources are workers, not activities, so we have 3 resources.



Step 1: Find the capacity of each resource

Capacity is the number of items that can be processed per unit time.

$$\text{Capacity of a resource} = \frac{1}{\text{average time spent per item by the resource}}$$

Example 1: If it takes 6 min to process an item, capacity is 1/6 units per min, or 10 units per hour.

Step 2: Find the bottleneck

"A chain is only as strong as its weakest link, its bottleneck".

- Case 1: If in-flow=out-flow for all resources (i.e. there is no rework, no yield loss, etc.), *bottleneck* is the resource with the lowest capacity.
- Case 2: If in-flow≠out-flow for *at least one* resource, *bottleneck* is the resource with the highest utilization.

$$\text{Utilization of a resource} = \frac{\text{Input rate to the resource}}{\text{Capacity of the resource}}$$

Step 3: Find the system capacity

System capacity: System output per unit time when the bottleneck is fully (100%) utilized.