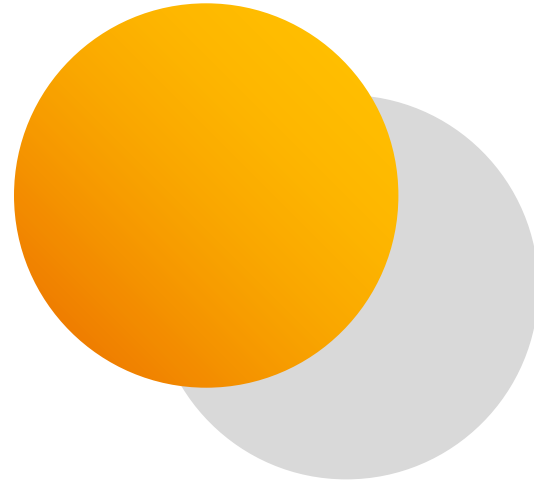# Improving Performance of Retail Chain Store Sales Calculating System based on Thread Pooling Tactic

GROUP VI

Sam Singh Anantha, Avinash Amudala, Haotian Zhang
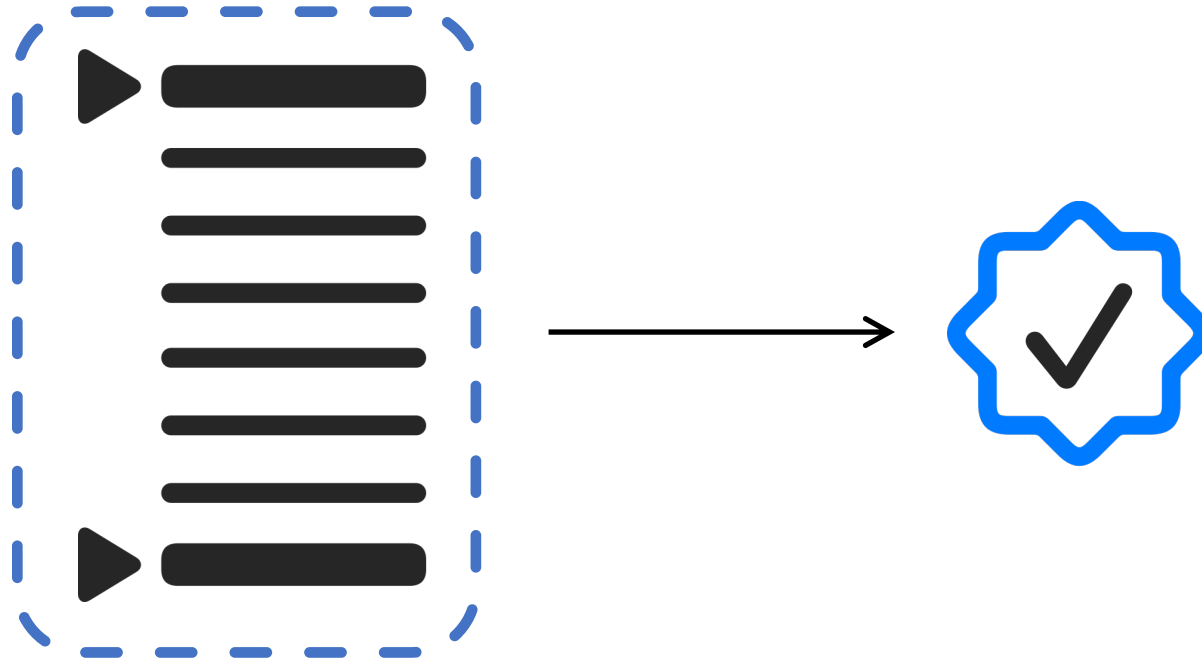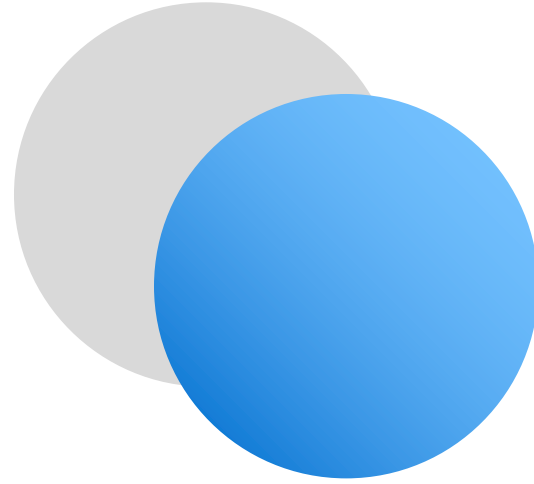
Introduction

Scene

- A retail chain operates multiple stores.
- Each store records **every transaction** in a month and only provides this raw file to the company for the sake of transparency.
- The company is interested in the **total sales** for each store and the store with the highest sales.
- The operation of reading files and calculating will **take a long time**.
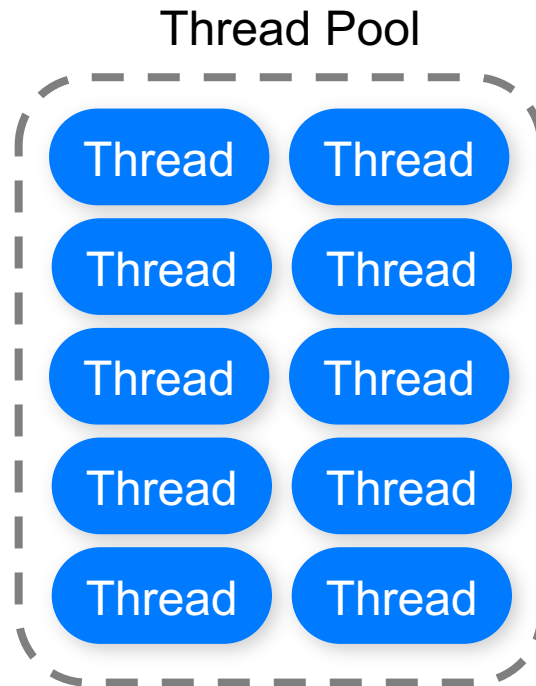
Solution

- Introduce **concurrency**.
- Establish a **thread pool** with 10 threads.
- Every thread operates a part of the task (10% of total) at the same time.
- The result of each thread would be collected and move on to the next step after every thread finished their work.
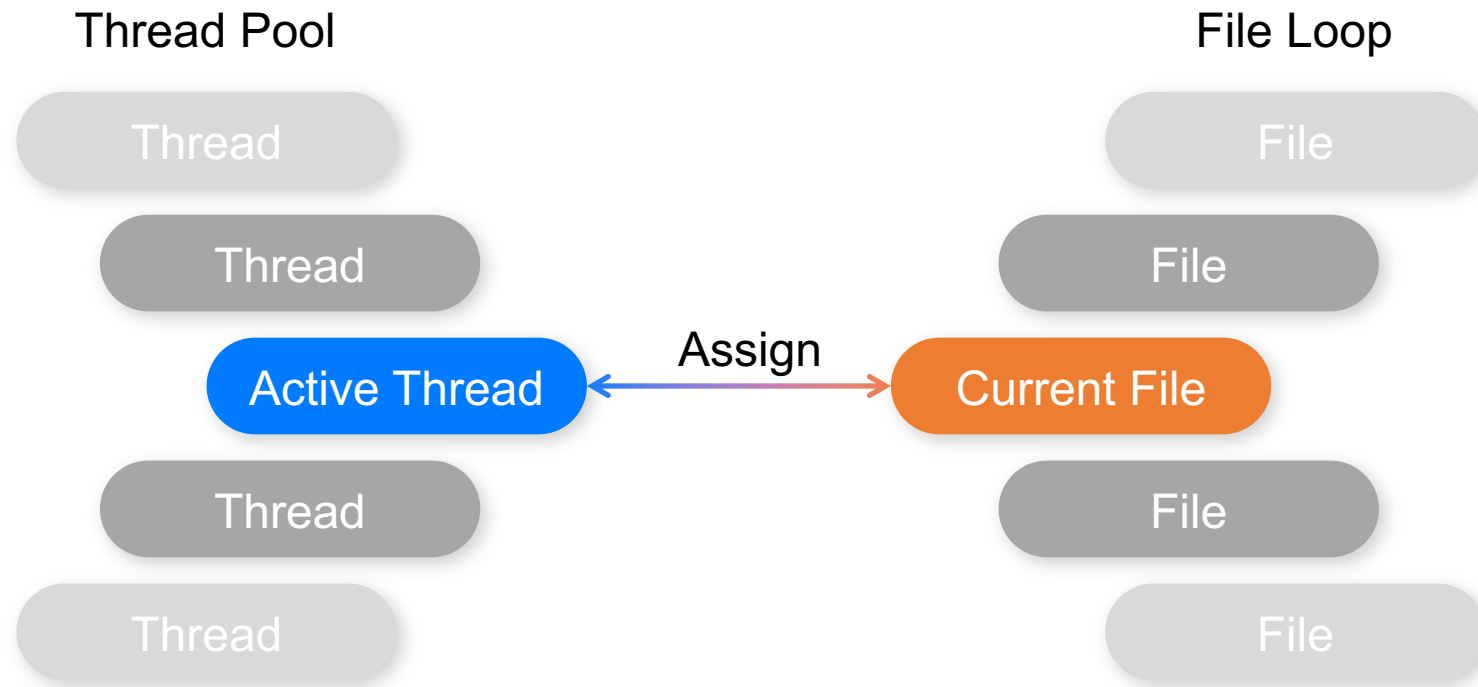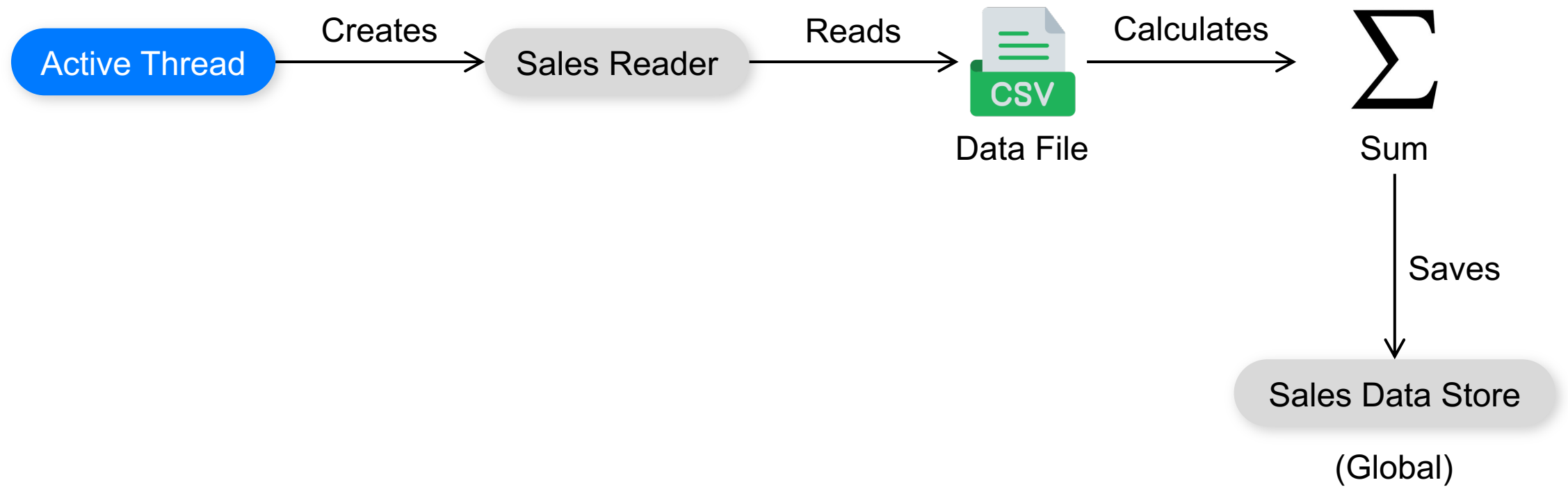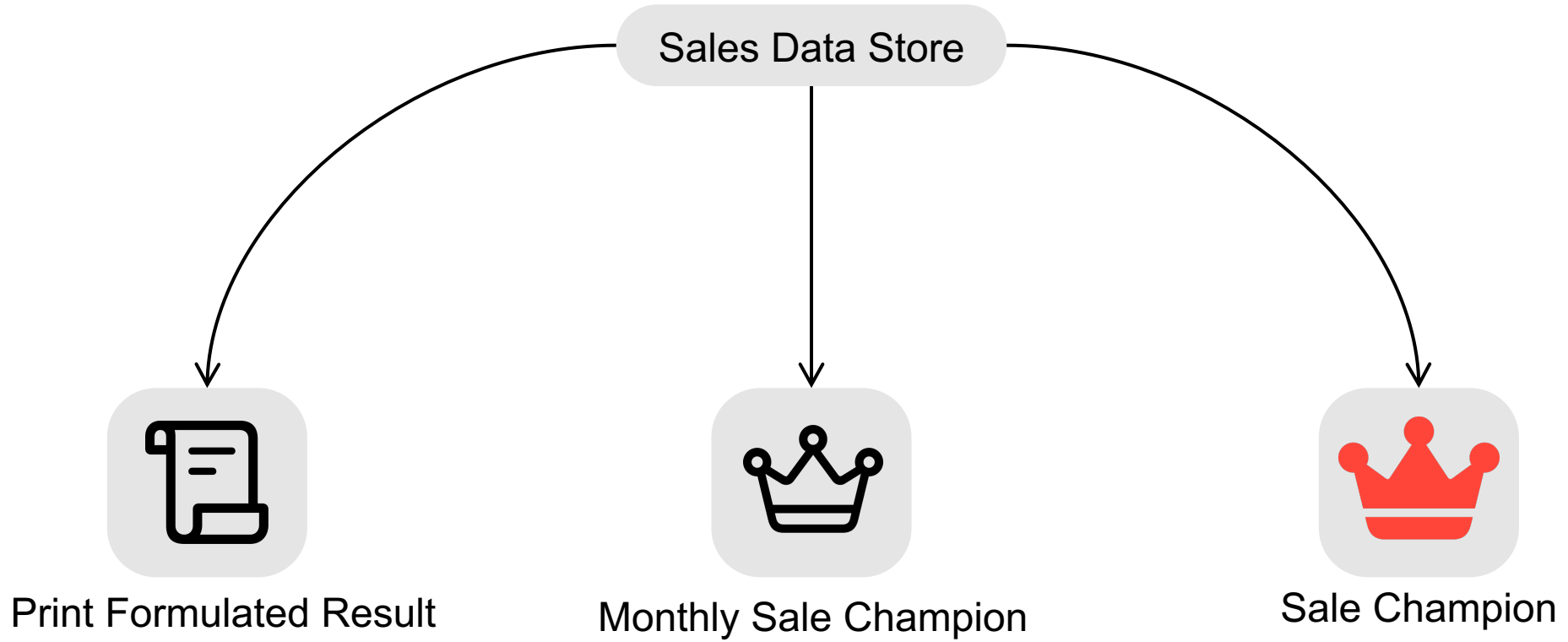
Code Description

Code

Thread Pool

Code

Thread Pool   File Loop

Thread   File

Thread   File

Active Thread ←——— Assign ———→ Current File

Thread   File

Thread   File

When a thread finishes its job, a new file will be assigned.

Code

Sales Data Store

Print Formulated Result

Monthly Sale Champion

Sale Champion

Demo Time!