题1-Shipment Management

Goal
目标

Design and implement “Shipment Management” program with unit tests.
目标设计并实施带有单元测试的“货运管理”程序。

Problem Statement
问题陈述

Our firm has trading arrangement with a supplier to ship goods to us.
As part of trade agreement,
the supplier agrees to ship X metric tons of goods in N number of shipments.
N can be one or more.
The supplier can alter the shipments allowing her to split or merge shipments
我们公司与供应商有贸易安排，可以将货物运送给我们。
作为贸易协议的一部分，
供应商同意按N批装运X吨货物。
N可以是一个或多个。
供应商可以更改装运，以允许她拆分或合并装运

Split
Split operation on a shipment, would create more than one shipments with specified quantities.
Sum of all child shipment quantities should be equal to parent shipment quantity.
拆分
对货件进行拆分操作，将创建多个具有指定数量的货件。
所有子装运数量的总和应等于父装运数量。

Merge
Merge operation on more than one shipment,

would create one child shipment with summed up quantity.
Sum of all parent shipment quantities should be equal to child shipment quantity.
合并
合并多个货件上的操作，
将创建一个汇总数量的子货件。
所有父装运数量之和应等于子装运数量。

Change root quantity
This operation applies to trade.
When trade quantity is changed,
all shipment quantities should be updated proportionally.
更改父装运数量
此操作适用于贸易。
当交易量改变时，
所有装运数量应按比例更新。

A trade would always start with one shipment initially.
This shipment quantity would be same as trade quantity.
The shipments would grow in number based on splits / merges.
交易总是从一开始就开始装运。
该装运数量将与贸易数量相同。
根据拆分/合并，出货量将增加。

Evaluation Points
评估点

Working Solution
Requirement Analysis
Design
Test Coverage

Code Quality

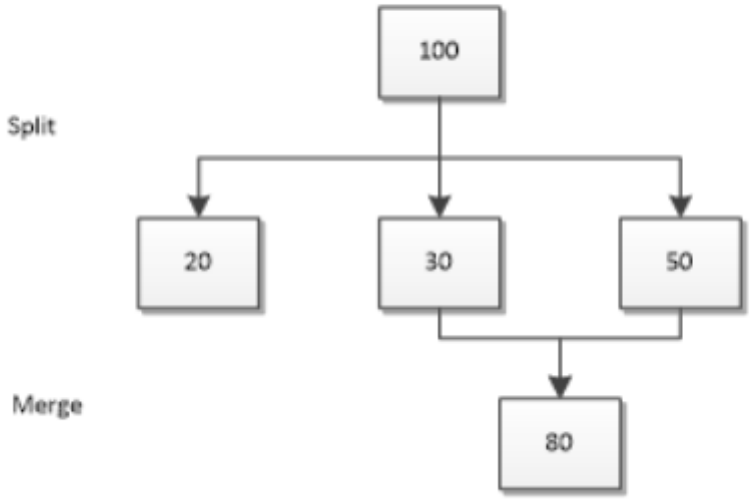
工作方案

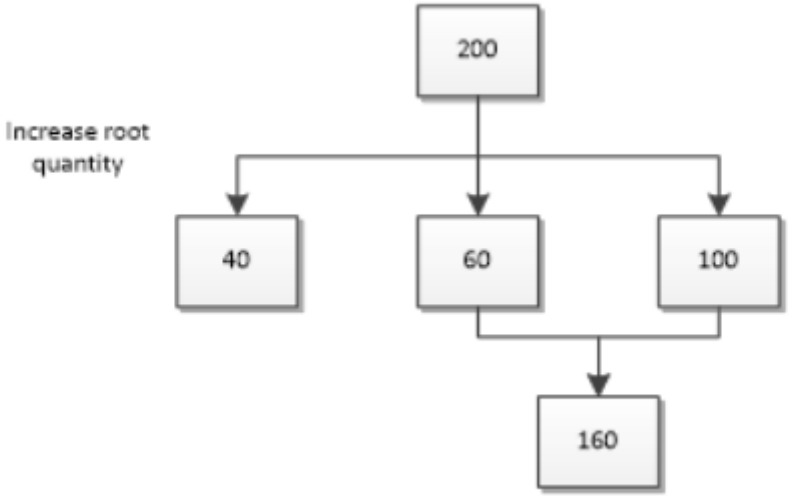
需求分析

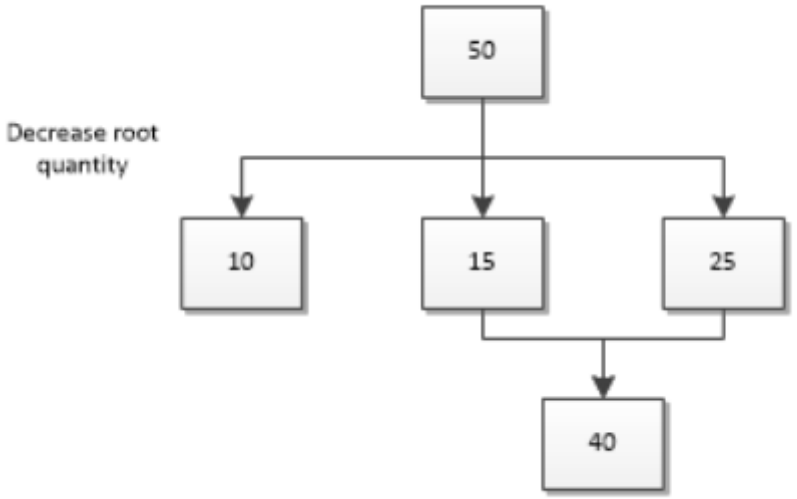
设计

测试覆盖率

代码质量







【1】

货运基本信息录入(待详细)

发货人，发货人电话，发货人地址

收货人，收货人电话，收货人地址

货物名，货物类型，货物数量

运单号，发货日期

【2】

输入：

发货总数量

处理：
拆分，合并，算法规则

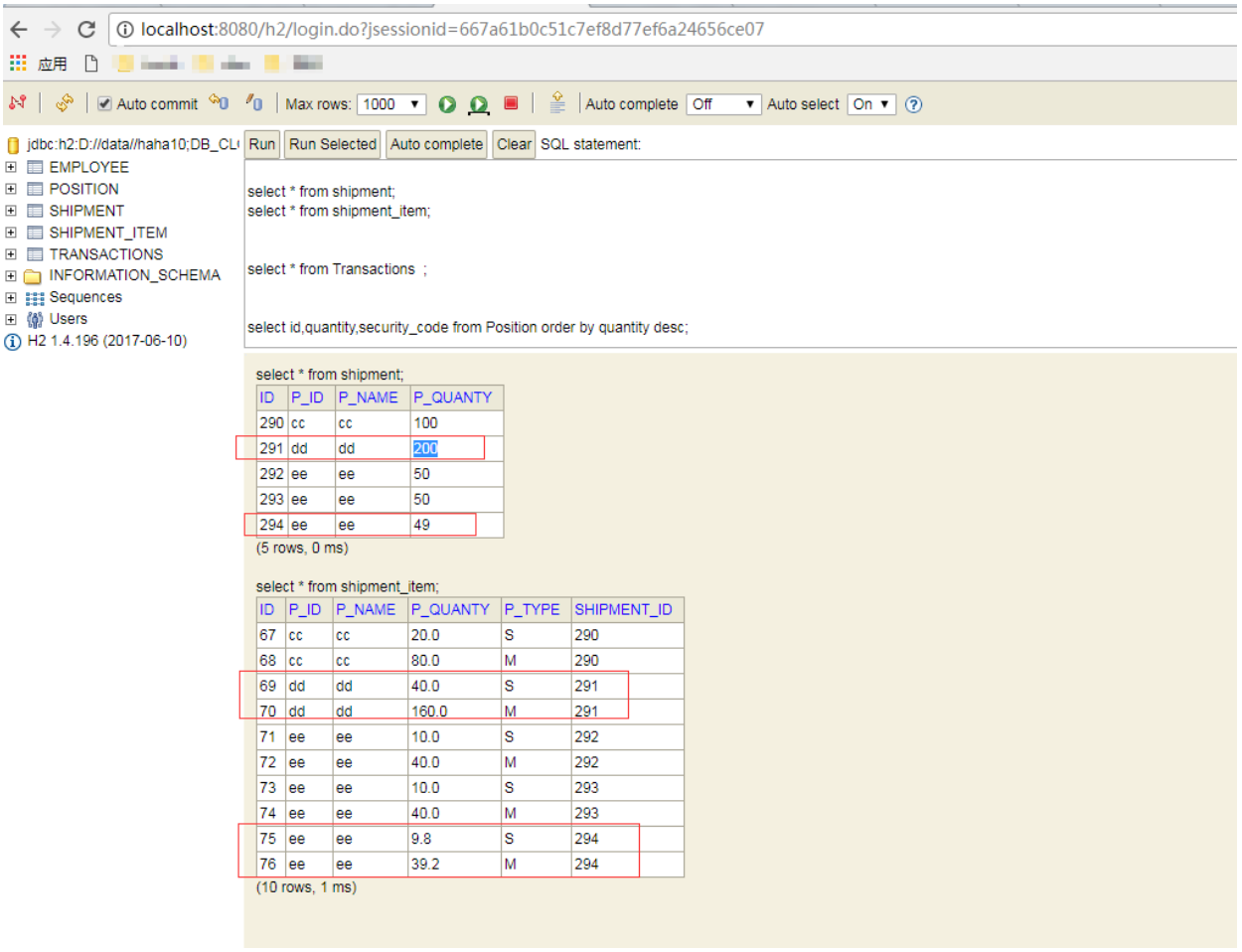
输出：
批次N，每个批次的数量

【3】
表结构
货物主表：shipment
id 主键 自增
pId 货物id
pName 货物名
pQuanty 总数量

货物明细表：shipmentItem
id 主键 自增
shipmentId 外键id
pId 货物id
pName 货物名
pQuanty 数量
pType 操作类型(S拆分， M合并)

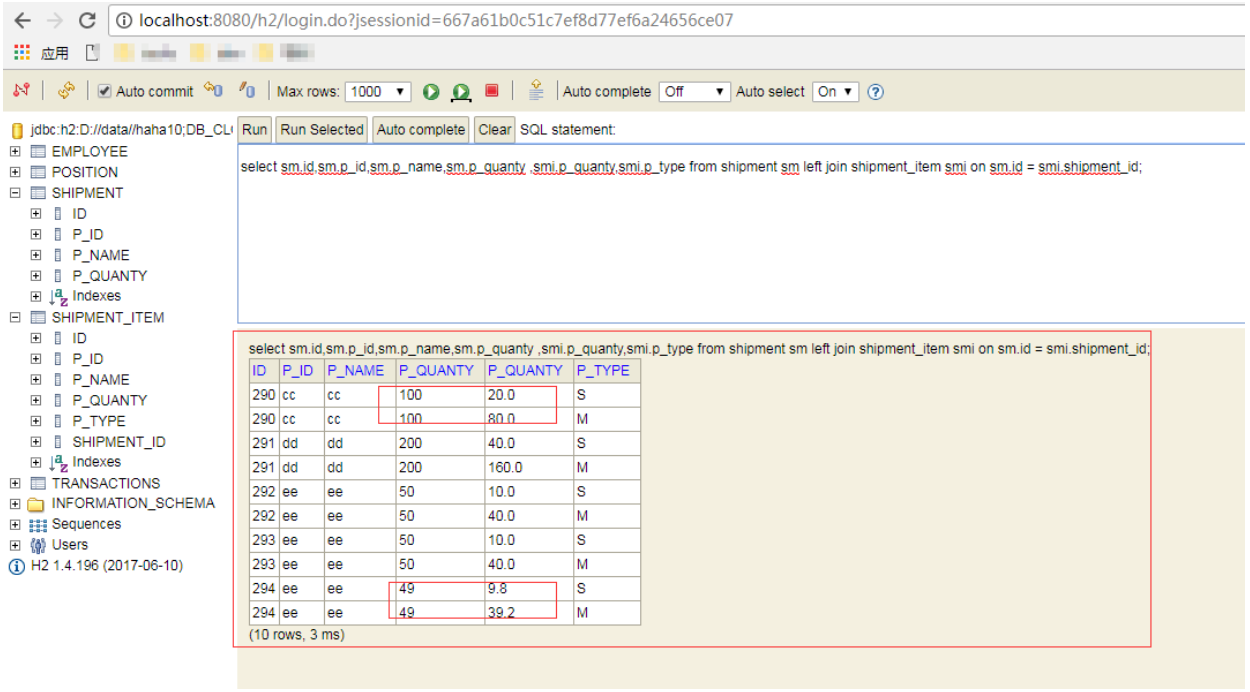
测试结果截图如下：

【1】设置数据



【2】查看结果

select sm.id,sm.p_id,sm.p_name,sm.p_quanty ,smi.p_quanty,smi.p_type from shipment sm left join shipment_item smi on sm.id = smi.shipment_id;



接口具体见postman倒出的附件文档