

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

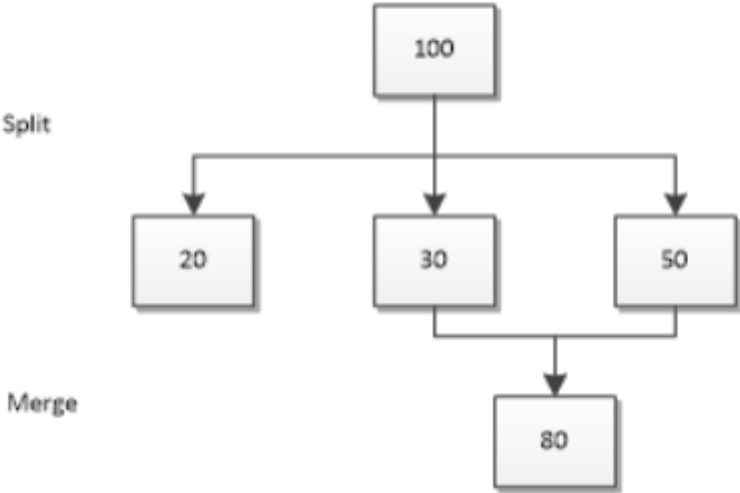
Working Solution

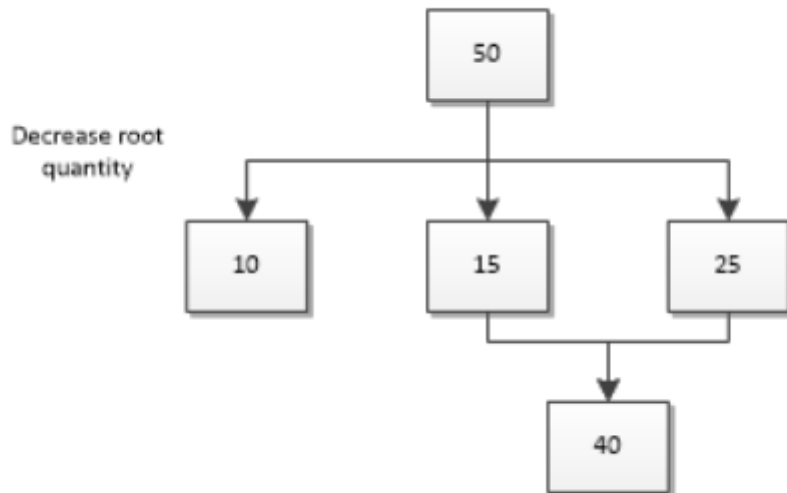
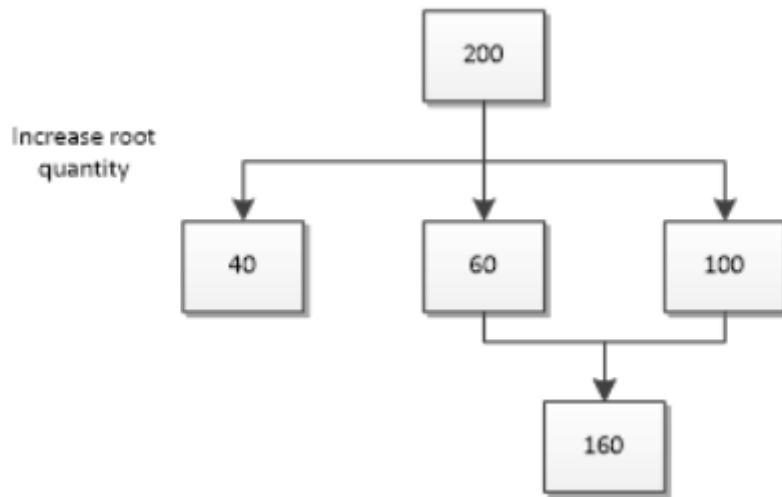
Requirement Analysis

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
pQuantity 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
pQuantity 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

localhost:8080/h2/login.do?jsessionid=667a61b0c51c7ef8d77ef6a24656ce07

应用 | ☒ Auto commit | Max rows: 1000 | Auto complete: Off | Auto select: On

jdbc:h2:D://data/haha10;DB_CL... Run Run Selected Auto complete Clear SQL statement:

```
select * from shipment;
select * from shipment_item;

select * from Transactions ;

select id,quantity,security_code from Position order by quantity desc;
```

select * from shipment;

ID	P_ID	P_NAME	P_QUANTITY
290	cc	cc	100
291	dd	dd	200
292	ee	ee	50
293	ee	ee	50
294	ee	ee	49

(5 rows, 0 ms)

select * from shipment_item;

ID	P_ID	P_NAME	P_QUANTITY	P_TYPE	SHIPMENT_ID
67	cc	cc	20.0	S	290
68	cc	cc	80.0	M	290
69	dd	dd	40.0	S	291
70	dd	dd	160.0	M	291
71	ee	ee	10.0	S	292
72	ee	ee	40.0	M	292
73	ee	ee	10.0	S	293
74	ee	ee	40.0	M	293
75	ee	ee	9.8	S	294
76	ee	ee	39.2	M	294

(10 rows, 1 ms)

【2】查看结果

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

localhost:8080/h2/login.do?jsessionid=667a61b0c51c7ef8d77ef6a24656ce07

应用 | ☒ Auto commit | Max rows: 1000 | Auto complete: Off | Auto select: On

jdbc:h2:D://data/haha10;DB_CL... Run Run Selected Auto complete Clear SQL statement:

```
select sm.id,sm.p_id,sm.p_name,sm.p_quantity ,smi.p_quantity,smi.p_type from shipment sm left join shipment_item smi on sm.id = smi.shipment_id;
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ID	P_ID	P_NAME	P_QUANTITY	P_QUANTITY	P_TYPE
290	cc	cc	100	20.0	S
290	cc	cc	100	80.0	M
291	dd	dd	200	40.0	S
291	dd	dd	200	160.0	M
292	ee	ee	50	10.0	S
292	ee	ee	50	40.0	M
293	ee	ee	50	10.0	S
293	ee	ee	50	40.0	M
294	ee	ee	49	9.8	S
294	ee	ee	49	39.2	M

(10 rows, 3 ms)

接口具体见postman倒出的附件文档

