Problem statement:

Suppose you are a data analyst working for Flipkart. Your task is to identify excess and insuffienct inventory at various Flipkart warehouses in terms of no of units and cost.

You are given an inventory table containing information about the inventory levels and required inventory target for each product and warehouse location combination.

Excess inventory is when inventory levels are greater than inventory targets else its insufficient inventory. Write an SQL to derive excess/insufficient Inventory for each location as well as at overall company level.

Table: inventory (primary key : location\_id,product\_id)

| **column name** | **datatype** |
| --- | --- |
| location\_id | int |
| product\_id | int |
| inventory\_level | int |
| inventory\_target | int |

Table: products (primary key : product\_id)

| **column name** | **datatype** |
| --- | --- |
| product\_id | int |
| unit\_cost | decimal(5,2) |

Expected Output:

|  |  |  |
| --- | --- | --- |
| **location\_id** | **excess\_insufficient\_qty** | **excess\_insufficient\_value** |
| 1 | 25 | 1347.5 |
| 2 | -25 | -1420 |
| 3 | 20 | 1180 |
| 4 | -12 | -600 |
| Overall | 8 | 507.5 |

Solution:

with cte as (

select location\_id, sum(inventory\_level-inventory\_target) as excess\_insufficient\_qty,

sum((inventory\_level-inventory\_target)\*unit\_cost) as excess\_insufficient\_value

from inventory a join products b on a.product\_id=b.product\_id

group by location\_id )

select \* from cte

union

select 'Overall' as location\_id, sum(excess\_insufficient\_qty) as excess\_insufficient\_qty,

sum(excess\_insufficient\_value) as excess\_insufficient\_value

from cte