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G-group by, O-order by

1. π(book)
2. $\sigma_{status>5}$(orderBook)
3. π(customer)
4. π(supplier)
5. $\sigma_{transDate\leq???\wedge transDate\geq???}$(transaction)
6. π(globalDiscount)
7. $\sigma_{bookName=?\wedge amount>0}$(book)
8. $\pi_{supply.*,book.authorName,supplier.supplierName}$ $\sigma_{bookName=?}$ ((supply $\bowtie_{bookName=bookName}$ book) $\bowtie_{supplierNumber=supplierNumber}$supplier)
9. $\pi_{transaction.transDate,make\_an.bookName,book.authorName}$ $\sigma_{bookName=?\wedge transDate\geq???}$ ((transaction $\bowtie_{transNumber=transNumber}$ make_an) $\bowtie_{bookName=bookName}$book)
10. $\pi_{transaction.transDate,make_{an}.bookName,customer.customerName,}$ $_{make\_an.customerNumber,customer.cellphone}$ $\sigma_{customerName=?\wedge transDate\geq???}$ ((transaction $\bowtie_{transNumber=transNumber}$ make_an) $\bowtie_{customerNumber=customerNumber}$customer)
11. $\pi_{transaction.transDate,make_{an}.bookName,customer.customerName,}$ $_{make\_an.customerNumber,customer.cellphone}$ customerNumber G count(*) desc limit 1 O($\sigma_{bookName=?\wedge transDate\geq???}$ ((transaction $\bowtie_{transNumber=transNumber}$ make_an) $\bowtie_{customerNumber=customerNumber}$customer))
12. $\pi_{orderBook.dateOrder,supply.supplierNumber,supplier.supplierName}$ supplierNumber G count(*) desc limit 1 O($\sigma_{dateOrder\geq???}$ ((orderBook $\bowtie_{orderNumber=orderNumber}$ place_an) $\bowtie_{bookName=bookName}$supply) $\bowtie_{supplierNumber=supplierNumber}$ supplier))
13. $\sigma_{dateOrder\leq???\wedge dateOrder\geq???}$(orderBook)
14. π $_{orderBook.dateOrder,transaction.transDate,orderBook.orderNumber,}$ $_{transaction.transNumber,place\_an.customerNumber,make\_an.customerNumber}$ $\sigma_{bookName=bookName\wedge dateOrder\geq???\wedge dateOrder\leq???}$ (((orderBook $\bowtie_{orderNumber=orderNumber}$ place_an) $\bowtie_{customerNumber=customerNumber}$make_an) $\bowtie_{transNumber=transNumber}$ transaction))

15. $a.\pi_{globaldiscount.startDate,globaldiscount.endDate,transaction.transDate,transaction.totalPrice,globaldiscount.discountPrice,customer.customerName}$
$\sigma_{customerName=?\wedge transDate\geq???}$(((transaction$\bowtie_{transDate\leq???\wedge transDate\geq???}$ globalDiscount)
$\bowtie_{bookName=bookName}$make_an) $\bowtie_{customerNumber=customerNumber}$ customer)
$b.\pi_{customer.totalPurchase,customer.customerName,make\_an.totalPrice,transaction.transDate}$
$\sigma_{customerName=?\wedge transDate\geq???\wedge totalPurchase>1000}$ ((customer
$\bowtie_{customerNumber=customerNumber}$ make_an)
$\bowtie_{transNumber=transNumber}$transaction)
16. $\sigma_{transDate\leq???\wedge transDate\geq???}$(transaction)
17. $\pi_{transaction.transDate,make\_an.customerNumber,customer.customerName}$
customerName G ($\sigma_{transDate\geq???}$ ((transaction $\bowtie_{transNumber=transNumber}$
make_an) $\bowtie_{customerNumber=customerNumber}$customer)
18. $\pi_{supplier.supplierNumber,supplier.supplierName,supply.supplierPrice,transaction.transDate}$
$\sigma_{supplierNumber=?\wedge transDate\leq???\wedge transDate\geq???}$ (((supplier
$\bowtie_{supplierNumber=supplierNumber}$ supply)
$\bowtie_{bookName=bookName}$make_an) $\bowtie_{transNumber=transNumber}$ transaction))
19. $\pi_{make\_an.totalPrice,make\_an.sellerNumber,seller.sellerName,transaction.transDate}$
$\sigma_{sellerNumber=?\wedge transDate\leq???\wedge transDate\geq???}$ ((seller
$\bowtie_{sellerNumber=sellerNumber}$
make_an)$\bowtie_{transNumber=transNumber}$transaction))
20. $\pi_{transaction.transDate,make\_an.bookName\ ,count(*)\ as\ most}$ bookName G most
desc O ($\sigma_{ttransDate\leq???\wedge transDate\geq???}$ (transaction
$\bowtie_{transNumber=transNumber}$ make_an)