

CIS 4301 RA and RC Practice Problems

Consider the following schema:

SALE (CUST_NAME, ITEM_NAME, WHEN)

CUST (CUST_NAME, INDUSTRY)

ITEM (ITEM_NAME, CATEGORY, PRICE)

Write both relational algebra and relational calculus expressions which will answer the following questions:

- (1) Which customers bought something on 12-18-04?
- (2) Which customers from the airline industry bought something on 12-18-04?
- (3) Which customers have bought something from a category other than “transportation”?
- (4) Which customers bought something costing more than \$1,000,000 that was not in the category “doohicky”?
- (5) Which customers from the airline industry did not buy something on 12-18-04?
- (6) Which customers from the airline industry bought an item from the category “spare part” on 12-18-04?
- (7) What categories has the customer “Widgets ‘R’ Us” never purchased an item in?
- (8) Which customers are associated with more than one industry?
- (9) What category has the most expensive item?
- (10) Which customers have bought every item in the “spare part” category?
- (11) Which customers have bought exactly the same set of items as “Chris’ Lobster Shack”?