

HW4 – Complex Queries

COMP 353

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- 1) `SELECT F.FacultyName, C.CourseID, C.CourseName
FROM Qualified Q, Faculty F, Course C
WHERE Q.FacultyID = F.FacultyID
AND Q.CourseID = C.CourseID
AND F.FacultyName = 'Berndt';`

FacultyName	CourseID	CourseName
Berndt	ISM 4212	Introduction to Relational Databases
Berndt	ISM 4930	Networking

- 2) `SELECT St.StudentID, St.StudentName, R.CourseID, R.SectionNo, R.Semester
FROM registration R, Student St
WHERE R.StudentID = St.StudentID
AND R.CourseID = 'ISM 4212'
AND R.SectionNo = 2714;`

StudentID	StudentName	CourseID	SectionNo	Semester
38214	Letersky	ISM 4212	2714	I-2008
54907	Altwater	ISM 4212	2714	I-2008

- 3) `SELECT F.FacultyID, F.FacultyName
FROM Qualified Q, Faculty F
WHERE Q.FacultyID = F.FacultyID
AND Q.CourseID = 'ISM 3113';`

FacultyID	FacultyName
1111	Someone
2143	Birkin
4756	Collins

- 4) `#INSERT INTO Qualified VALUES (3467, 'ISM 3113', null);`

```
SELECT F.FacultyID, F.FacultyName, Q.CourseID  
FROM Faculty F, Qualified Q  
WHERE F.FacultyID = Q.FacultyID  
AND Q.CourseID = 'ISM 3113'  
AND NOT Q.FacultyID IN
```

```
(SELECT F.FacultyID
FROM Faculty F, Qualified Q
WHERE F.FacultyID = Q.FacultyID
AND Q.CourseID = 'ISM 4930');
```

```
#DELETE FROM Qualified WHERE CourseID = 'ISM 3113' AND FacultyID = 3467;
```

The incorrect query is attempting to ‘cascade’ through the WHERE AND clauses, however the WHERE clause only looks at individual rows for each WHERE clause, therefore drilling down using multiple WHERE clauses as ‘filters’ is not possible.

FacultyID	FacultyName	CourseID
1111	Someone	ISM 3113
2143	Birkin	ISM 3113
4756	Collins	ISM 3113

- 5)

```
SELECT DISTINCT COUNT(*)
FROM registration R, Student S
WHERE R.StudentID = S.StudentID
AND R.Semester = 'I-2008'
AND R.CourseID = 'ISM 3113';
```

COUNT(*)

1

- 6)

```
SELECT DISTINCT S.StudentID, S.StudentName
FROM Student S
WHERE NOT EXISTS
(SELECT *
FROM registration R
WHERE R.StudentID = S.StudentID);
```

StudentID	StudentName
70542	Maara

- 7)

```
SELECT C.CustomerID, C.CustomerName
FROM Customer_T C
WHERE C.CustomerID NOT IN
(SELECT O.CustomerID
FROM Order_T O);
```

CustomerID	CustomerName
2	Value Furnitures
5	Impressions
7	New Furniture

- 8) SELECT M.EmployeeName, COUNT(*) AS HeadCount
FROM Employee_T M, Employee_T E
WHERE M.EmployeeID = E.EmployeeSupervisor
GROUP BY M.EmployeeName
HAVING HeadCount > 2;

EmployeeName	HeadCount
Robert Lewis	3

- 9) SELECT E.EmployeeName, E.EmployeeBirthDate, M.EmployeeName AS ManagerName,
M.EmployeeBirthDate AS ManagerBirthDate
FROM Employee_T E, Employee_T M
WHERE E.EmployeeSupervisor = M.EmployeeID
AND E.EmployeeBirthDate < M.EmployeeBirthDate;

EmployeeName	EmployeeBirthDate	ManagerName	ManagerBirthDate
Phil Morris	1957-01-05	Robert Lewis	1969-05-06
Lawrence Haley	1963-08-15	Robert Lewis	1969-05-06

- 10) SELECT P.ProductID, P.ProductStandardPrice, (OL.OrderedQuantity * P.ProductStandardPrice) AS
TotalCost
FROM OrderLine_T OL, Product_T P
WHERE OL.ProductID = P.ProductID
AND OL.OrderID = 1
GROUP BY P.ProductID, P.ProductStandardPrice, TotalCost;

ProductID	ProductStandardPrice	TotalCost
2	200.00	3600.00
6	750.00	1500.00
10	200.00	1800.00

- 11) SELECT P.ProductID, P.ProductDescription, P.ProductStandardPrice, SUM(U.QuantityRequired *
RM.MaterialStandardPrice) AS TotCost
FROM Product_T P, Uses_T U, RawMaterial_T RM
WHERE P.ProductID = U.ProductID
AND U.MaterialID = RM.MaterialID
GROUP BY P.ProductID;

ProductID	ProductDescription	ProductStandardPrice	TotCost
1	Cherry End Table	175.00	99.70
2	Birch Coffee Tables	200.00	135.40
3	Oak Computer Desk	750.00	353.20
4	Entertainment Center	1650.00	931.60
6	8-Drawer Dresser	750.00	231.25
18	6' Grandfather Clock	890.00	108.00

- 12) SELECT E.EmployeeID, E.EmployeeName
FROM Employee_T E
WHERE NOT E.EmployeeID IN
(SELECT ES.EmployeeID
FROM EmployeeSkills_T ES, Skill_T S
WHERE ES.SkillID = S.SkillID
AND S.SkillDescription = 'Router')
ORDER BY E.EmployeeName;

EmployeeID	EmployeeName
Laura	Laura Ellenburg
332445667	Lawrence Haley
555955585	Mary Smith

- 13) SELECT C1.CustomerName, C2.CustomerName, C2.CustomerPostalCode
FROM Customer_T C1, Customer_T C2
WHERE C1.CustomerPostalCode = C2.CustomerPostalCode
AND C2.CustomerID = 16
AND NOT C1.CustomerID = 16;

CustomerName	CustomerName	CustomerPostalCode
A Carpet	ABC Furniture Co.	13440

- 14) SELECT C.CustomerID, C.CustomerName, O.OrderID
FROM Customer_T C, Order_T O
WHERE C.CustomerID = O.CustomerID
UNION
SELECT C.CustomerID, C.CustomerName, 0 AS OrderID
FROM Customer_T C
WHERE NOT C.CustomerID IN
(SELECT C.CustomerID
FROM Customer_T C, Order_T O
WHERE C.CustomerID = O.CustomerID);

CustomerID	CustomerName	OrderID
1	Contemporary Casuals	3
1	Contemporary Casuals	7
1	Contemporary Casuals	24
1	Contemporary Casuals	46
1	Contemporary Casuals	48
1	Contemporary Casuals	75
3	Home Furnishings	2
4	Eastern Furniture	1
4	Eastern Furniture	5
4	Eastern Furniture	6
4	Eastern Furniture	8
4	Eastern Furniture	19
4	Eastern Furniture	20
4	Eastern Furniture	21
4	Eastern Furniture	22
4	Eastern Furniture	23
4	Eastern Furniture	25
4	Eastern Furniture	26
4	Eastern Furniture	27
4	Eastern Furniture	28
4	Eastern Furniture	29
4	Eastern Furniture	30
4	Eastern Furniture	36
4	Eastern Furniture	37
4	Eastern Furniture	38
4	Eastern Furniture	39
4	Eastern Furniture	40
4	Eastern Furniture	42
4	Eastern Furniture	49
4	Eastern Furniture	63
4	Eastern Furniture	64
4	Eastern Furniture	65
4	Eastern Furniture	69
4	Eastern Furniture	71
4	Eastern Furniture	76
6	Furniture Gallery	4
6	Furniture Gallery	9
6	Furniture Gallery	44
8	Dunkins Furniture	35
8	Dunkins Furniture	50
9	A Carpet	56
9	A Carpet	57
9	A Carpet	66
12	Flanigan Furniture	41
12	Flanigan Furniture	43
12	Flanigan Furniture	45
12	Flanigan Furniture	47
12	Flanigan Furniture	73
13	Ikards	59
14	Wild Bills	58
15	Janet's Collection	31
15	Janet's Collection	32
15	Janet's Collection	34
16	ABC Furniture Co.	51
16	ABC Furniture Co.	52
16	ABC Furniture Co.	53
16	ABC Furniture Co.	54
16	ABC Furniture Co.	55
2	Value Furnitures	0
5	Impressions	0
7	New Furniture	0

15) SELECT C.CustomerID, C.CustomerName
FROM Customer_T C, Order_T O, OrderLine_T OL
WHERE C.CustomerID = O.CustomerID
AND O.OrderID = OL.OrderID
AND OL.ProductID = 3
AND O.OrderID IN
(SELECT OL.OrderID
FROM OrderLine_T OL
WHERE OL.ProductID = 4);

CustomerID	CustomerName
6	Furniture Gallery
16	ABC Furniture Co.

16) SELECT OL.OrderID, OL.OrderedQuantity, OL.ProductID
FROM OrderLine_T OL, Product_T P
WHERE OL.ProductID = P.ProductID
AND OL.OrderedQuantity >
(SELECT AVG(OL2.OrderedQuantity)

```

FROM OrderLine_T OL2
WHERE OL2.ProductID = OL.ProductID)
ORDER BY OL.ProductID;

```

OrderID	OrderedQuantity	ProductID
26	5	1
28	2	1
52	2	1
1	18	2
2	12	3
63	5	3
51	1	4
52	1	4
55	2	4
56	1	4
66	1	4
32	10	5
4	3	6
32	10	14

```

17) CREATE VIEW ProductTotalOrderedQuantitiesPerCustomer AS
      SELECT OL.ProductID, C.CustomerID, SUM(OL.OrderedQuantity) AS TotalOrderedQuantity
      FROM Customer_T C, Order_T O, OrderLine_T OL
      WHERE C.CustomerID = O.CustomerID
            AND O.OrderID = OL.OrderID
      GROUP BY OL.ProductID, C.CustomerID;

SELECT *
FROM ProductTotalOrderedQuantitiesPerCustomer;

```

ProductID	CustomerID	TotalOrderedQuantity
1	1	0
1	4	9
1	16	3
2	1	2
2	4	26
2	16	2
3	3	12
3	4	5
3	6	1
3	14	1
3	16	5
4	4	0
4	6	0
4	9	2
4	16	4
5	6	3
5	15	10
6	4	4
6	6	3
7	4	4
8	3	2
10	4	9
13	13	2
14	3	2
14	15	10

```

SELECT OL.ProductID, P.ProductDescription, MAX(V.TotalOrderedQuantity) AS TotOrdered
FROM OrderLine_T OL, ProductTotalOrderedQuantitiesPerCustomer V, Product_T P, Customer_T C
WHERE OL.ProductID = V.ProductID

```

```

AND V.ProductID = P.ProductID
GROUP BY OL.ProductID, P.ProductDescription
ORDER BY P.ProductID ASC;

```

ProductID	ProductDescription	TotOrdered
1	Cherry End Table	9
2	Birch Coffee Tables	26
3	Oak Computer Desk	12
4	Entertainment Center	4
5	Writer's Desk	10
6	8-Drawer Dresser	4
7	48 Bookcase	4
8	48 Bookcase	2
10	96 Bookcase	9
13	Nightstand	2
14	Writer's Desk	10
17	High Back Leather Chair	5
20	Amoire	1

```

SELECT OL.ProductID, P.ProductDescription, V.CustomerID, C.CustomerName,
V.TotalOrderedQuantity AS TotOrdered
FROM OrderLine_T OL, ProductTotalOrderedQuantitiesPerCustomer V, Product_T P, Customer_T C
WHERE OL.ProductID = V.ProductID
AND V.ProductID = P.ProductID
AND V.CustomerID = C.CustomerID
GROUP BY OL.ProductID, P.ProductDescription, V.CustomerID, C.CustomerName
ORDER BY P.ProductID ASC;

```

ProductID	ProductDescription	CustomerID	CustomerName	TotOrdered
1	Cherry End Table	1	Contemporary Casuals	0
1	Cherry End Table	4	Eastern Furniture	9
1	Cherry End Table	16	ABC Furniture Co.	3
2	Birch Coffee Tables	1	Contemporary Casuals	2
2	Birch Coffee Tables	4	Eastern Furniture	26
2	Birch Coffee Tables	16	ABC Furniture Co.	2
3	Oak Computer Desk	3	Home Furnishings	12
3	Oak Computer Desk	4	Eastern Furniture	5
3	Oak Computer Desk	6	Furniture Gallery	1
3	Oak Computer Desk	14	Wild Bills	1
3	Oak Computer Desk	16	ABC Furniture Co.	5
4	Entertainment Center	4	Eastern Furniture	0
4	Entertainment Center	6	Furniture Gallery	0
4	Entertainment Center	9	A Carpet	2
4	Entertainment Center	16	ABC Furniture Co.	4
5	Writer's Desk	6	Furniture Gallery	3
5	Writer's Desk	15	Janet's Collection	10
6	8-Drawer Dresser	4	Eastern Furniture	4
6	8-Drawer Dresser	6	Furniture Gallery	3
7	48 Bookcase	4	Eastern Furniture	4
8	48 Bookcase	3	Home Furnishings	2
10	96 Bookcase	4	Eastern Furniture	9
13	Nightstand	13	Ikards	2
14	Writer's Desk	3	Home Furnishings	2
14	Writer's Desk	15	Janet's Collection	10