

## Database Management

Trang Nguyen

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Using the University database (attached in the end and also shown in pp. 80–82 of the textbook; Microsoft Access Database univ4.mdb), create a “SELECT” SQL statement for each of the following problems. [Note, an SQL statement may include nested queries.]

Turn in SQL statements only.

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1. List the names of faculty members and the course numbers for which the faculty member teaches the same course as his or her supervisor in 2013.

FacFirstName	FacLastName	CourseNo
LEONARD	FIBON	IS320
LEONARD	VINCE	IS320

```
SELECT FacFirstName, FacLastName, 01.CourseNo
FROM (Faculty INNER JOIN Offering AS 01
      ON Faculty.FacNo = 01.FacNo
      INNER JOIN Offering AS 02
      ON Faculty.FacSupervisor = 02.FacNo
WHERE 01.CourseNo = 02.CourseNo
      AND 01.OffYear = 2013
      AND 02.OffYear = 2013;
```

2. List the course number, offering number, and average enrollment grade of IS course offerings in which exactly 6 students are enrolled. Sort the result by course number in ascending order.

CourseNo	OfferNo	AvgGrade
IS320	1234	3.383333
IS320	4321	3.300000
IS480	5679	3.133333

```
SELECT CourseNo, Enrollment.OfferNo, AVG(EnrGrade) AS AvgGrade
FROM Enrollment, Offering
WHERE Enrollment.OfferNo = Offering.OfferNo
      AND CourseNo LIKE 'IS*'
GROUP BY CourseNo, Enrollment.OfferNo
HAVING COUNT(*) = 6
ORDER BY CourseNo;
```

3. List the course number and the offering number of the offering that was taken by more students than any other offerings were. (Note: Do not use “Top 1” or “Limit 1” in your query.)

```
CourseNo OfferNo
-----
IS460      9876
```

```
SELECT Offering.CourseNo, Enrollment.OfferNo
FROM Enrollment, Offering
WHERE Enrollment.OfferNo = Offering.OfferNo
GROUP BY Offering.CourseNo, Enrollment.OfferNo
HAVING COUNT (*) >= ALL
      (SELECT COUNT (*)
       FROM Enrollment
       GROUP BY OfferNo);
```

4. List the faculty numbers and names of assistant ('ASST') professors who did not offer any FIN course at all.

```
FacNo      FacFirstName FacLastName
-----
098765432  LEONARD      VINCE
876543210  CRISTOPHER   COLAN
```

```
SELECT distinct Faculty1.FacNo, FacFirstName, FacLastName
FROM Faculty1, Offering
WHERE FacRank = 'ASST'
AND Offering.FacNo not in (SELECT FacNo
                           FROM Offering
                           WHERE CourseNo like 'FIN*'
                           AND Offering.FacNo IS NOT NULL);
```

5. List course numbers (CourseNo) and titles (CrsDesc) of courses offered by only full professors (whose FacRank is 'ASSC'). (Note: If there are courses that have not been offered at all, they must not be included.)

```
CourseNo CrsDesc
-----
FIN300    FUNDAMENTALS OF FINANCE
FIN480    CORPORATE FINANCE
```

```
SELECT DISTINCT C.CourseNo, CrsDesc
FROM Offering O, Course C
WHERE O.CourseNo = C.CourseNo
AND C.CourseNo NOT IN (SELECT CourseNo
                       FROM Offering, Faculty
                       WHERE Offering.FacNo = Faculty.FacNo
                       AND FacRank <> 'PROF'));
```

## University Database

**Faculty Table**

FacNo	FacFirstName	FacLastName	FacCity	FacState	FacDept	FacRank	FacSalary	FacSupervisor	FacHireDate	FacZipCode
098765432	LEONARD	VINCE	SEATTLE	WA	MS	ASST	35000.00	654321098	2000-04-10	98111-9921
543210987	VICTORIA	EMMANUEL	BOTHELL	WA	MS	PROF	120000.00		2001-04-15	98011-2242
654321098	LEONARD	FIBON	SEATTLE	WA	MS	ASSC	70000.00	543210987	1999-05-01	98121-0094
765432109	NICKI	MACON	BELLEVUE	WA	FIN	PROF	65000.00		2002-04-11	98015-9945
876543210	CRISTOPHER	COLAN	SEATTLE	WA	MS	ASST	40000.00	654321098	2004-03-01	98114-1332
987654321	JULIA	MILLS	SEATTLE	WA	FIN	ASSC	75000.00	765432109	2005-03-15	98114-9954

**Course Table**

CourseNo	crsDesc	CrsUnits
FIN300	FUNDAMENTALS OF FINANCE	4
FIN450	PRINCIPLES OF INVESTMENTS	4
FIN480	CORPORATE FINANCE	4
IS320	FUNDAMENTALS OF BUSINESS PROGRAMMING	4
IS460	SYSTEMS ANALYSIS	4
IS470	BUSINESS DATA COMMUNICATIONS	4
IS480	FUNDAMENTALS OF DATABASE MANAGEMENT	4

**Enrollment Table**

OfferNo	StdNo	EnrGrade
1234	123456789	3.30
1234	234567890	3.50
1234	345678901	3.20
1234	456789012	3.10
1234	567890123	3.80
1234	678901234	3.40
4321	123456789	3.50
4321	124567890	3.20
4321	789012345	3.50
4321	876543210	3.10
4321	890123456	3.40
4321	901234567	3.10
5555	123456789	3.20
5555	124567890	2.70
5678	123456789	3.20
5678	234567890	2.80
5678	345678901	3.30
5678	456789012	3.40
5678	567890123	2.60
5679	123456789	2.00
5679	124567890	3.70
5679	678901234	3.30
5679	789012345	3.80
5679	890123456	2.90
5679	901234567	3.10
6666	234567890	3.10
6666	567890123	3.60
7777	876543210	3.40
7777	890123456	3.70
7777	901234567	3.40
9876	124567890	3.50
9876	234567890	3.20
9876	345678901	3.20
9876	456789012	3.40
9876	567890123	2.60
9876	678901234	3.30
9876	901234567	4.00

**Offering Table**

OfferNo	CourseNo	OffTerm	OffYear	OffLocation	OffTime	FacNo	OffDays
1111	IS320	SUMMER	2013	BLM302	10:30 AM		MW
1234	IS320	FALL	2012	BLM302	10:30 AM	098765432	MW
2222	IS460	SUMMER	2012	BLM412	1:30 PM		TTH
3333	IS320	SPRING	2013	BLM214	8:30 AM	098765432	MW
4321	IS320	FALL	2012	BLM214	3:30 PM	098765432	TTH
4444	IS320	WINTER	2013	BLM302	3:30 PM	543210987	TTH
5555	FIN300	WINTER	2013	BLM207	8:30 AM	765432109	MW
5678	IS480	WINTER	2013	BLM302	10:30 AM	987654321	MW
5679	IS480	SPRING	2013	BLM412	3:30 PM	876543210	TTH
6666	FIN450	WINTER	2013	BLM212	10:30 AM	987654321	TTH
7777	FIN480	SPRING	2013	BLM305	1:30 PM	765432109	MW
8888	IS320	SUMMER	2013	BLM405	1:30 PM	654321098	MW
9876	IS460	SPRING	2013	BLM307	1:30 PM	654321098	TTH

**Student Table**

StdNo	StdFirstName	StdLastName	StdCity	StdState	StdZip	StdMajor	StdClass	StdGPA
123456789	HOMER	WELLS	SEATTLE	WA	98121-1111	IS	FR	3.00
124567890	BOB	NORBERT	BOTHELL	WA	98011-2121	FIN	JR	2.70
234567890	CANDY	KENDALL	TACOMA	WA	99042-3321	ACCT	JR	3.50
345678901	WALLY	KENDALL	SEATTLE	WA	98123-1141	IS	SR	2.80
456789012	JOE	ESTRADA	SEATTLE	WA	98121-2333	FIN	SR	3.20
567890123	MARIAH	DODGE	SEATTLE	WA	98114-0021	IS	JR	3.60
678901234	TESS	DODGE	REDMOND	WA	98116-2344	ACCT	SO	3.30
789012345	ROBERTO	MORALES	SEATTLE	WA	98121-2212	FIN	JR	2.50
876543210	CRISTOPHER	COLAN	SEATTLE	WA	98114-1332	IS	SR	4.00
890123456	LUKE	BRAZZI	SEATTLE	WA	98116-0021	IS	SR	2.20
901234567	WILLIAM	PILGRIM	BOTHELL	WA	98113-1885	IS	SO	3.80

*These are partial, not complete, lists of records of tables.*