21:16:59 START Executing for: 'jhuDB' [MySQL], Database: 21fa_yzhou193_db
21:17:00 INFO Physical database connection acquired for: jhuDB

21:17:00 SUCCESS [SELECT - 8 rows, 0.191 secs] Result set fetched
/*Query 1*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, S.age AS Age, S.sex AS Sex, C.city_name AS City
FROM VotedForElectioninUS V, Student S, City C, USCandidate U
WHERE S.StuID = V.StuID AND S.citY_code = C.city_code AND U.candidateid = V.candidateid AND V.year
BETWEEN '2016' AND '2020' AND U.candidatename = 'Donald Trump';

StuName	Age	Sex	City
Stacy Prater	18	F	Baltimore
David Shieber	20	M	New York
Mark Schwartz	17	M	Detroit
Mark Schwartz	17	M	Detroit
Stacy Prater	18	F	Baltimore
David Shieber	20	M	New York
Mark Schwartz	17	M	Detroit
Mark Schwartz	17	M	Detroit

21:17:00 SUCCESS [SELECT - 13 rows, 0.166 secs] Result set fetched
/*Query 2*/
SELECT DISTINCT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS Major
FROM Student S, Department D, Course C, Faculty F, Enrolled_in E
WHERE (S.major = D.dno AND S.advisor = F.facid AND F.fname = 'Jason' AND F.lname = 'Eisner')
OR (S.major = D.dno AND E.stuid = S.stuid AND C.cid = E.cid AND C.instructor = F.facid AND F.fname = 'Jason'
AND F.lname = 'Eisner');

StuName	Major
Lisa Apap	Computer Science
Linda Smith	Computer Science
Tracy Kim	Computer Science
Shiela Jones	Computer Science
Dinesh Kumar	Computer Science
Michael Leighton	Computer Science
Ian Thornton	ECE
George Andreou	ECE
David Shieber	ECE
Eric Pang	ECE
Eric Rugh	Mathematical Sciences
Sarah Smith	Mathematical Sciences
William Simms	Mathematical Sciences

21:17:01 SUCCESS [SELECT - 20 rows, 0.075 secs] Result set fetched
/*Query 3*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS MajorName
FROM Student S, Department D
WHERE S.major = D.dno
EXCEPT
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS MajorName

FROM Student S, Department D, Course C, Faculty F, Enrolled_in E
WHERE (S.major = D.dno AND S.advisor = F.facid AND F.fname = 'Jason' AND F.lname = 'Eisner')
OR (S.major = D.dno AND E.stuid = S.stuid AND C.cid = E.cid AND C.instructor = F.facid AND F.fname = 'Jason'
AND F.lname = 'Eisner');

StuName	MajorName
Paul Gompers	Computer Science
Andy Schultz	Computer Science
Jandy Nelson	Computer Science
Eric Tai	Computer Science
Derek Lee	Computer Science
David Adams	Computer Science
Steven Davis	Computer Science
Charles Norris	Computer Science
Susan Lee	Computer Science
Mark Schwartz	Computer Science
Bruce Wilson	Computer Science
Arthur Pang	Computer Science
Michael Woods	Chemical Engineering
Stacy Prater	Chemical Engineering
Mark Goldman	ECE
Paul Brody	ECE
Jun Han	History
Lisa Cheng	Mathematical Sciences
Eric Brown	Mathematical Sciences
Eric Epp	Cognitive Science

21:17:01 SUCCESS [SELECT - 10 rows, 0.094 secs] Result set fetched
/*Query 5*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS Major
FROM Student S, Department D
WHERE S.major = D.dno AND NOT EXISTS (
SELECT *
FROM Student S1, Course C, Enrolled_in E
WHERE S.stuid = E.stuid AND C.cid = E.cid AND C.dno = S.major);

StuName	Major
Eric Tai	Computer Science
Ian Thornton	ECE
George Andreou	ECE
Michael Woods	Chemical Engineering
David Shieber	ECE
Stacy Prater	Chemical Engineering
Paul Brody	ECE
Jun Han	History
Sarah Smith	Mathematical Sciences
William Simms	Mathematical Sciences

21:17:01 SUCCESS [SELECT - 11 rows, 0.112 secs] Result set fetched
/*Query 6*/
SELECT A.activity_name AS Activity, COUNT(P.stuid) as StuNum

FROM Activity A, Participates_in P
WHERE A.actid = P.actid
GROUP BY P.stuid
HAVING COUNT(P.stuid) >= 3
ORDER BY COUNT(P.stuid) DESC, A.activity_name;

Activity	StuNum
Crossword Puzzles	6
Football	6
Chess	4
Football	4
Football	4
Baseball	3
Baseball	3
Football	3
Mountain Climbing	3
Proselytizing	3
Soccer	3

21:17:01 SUCCESS [SELECT - 29 rows, 0.062 secs] Result set fetched

/*Query 8*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS Major, COUNT(P.actid)
FROM Student S, Participates_in P, Department D, Enrolled_in E
WHERE S.stuid = P.stuid AND E.stuid = S.stuid AND S.major = D.dno
AND NOT EXISTS (SELECT *
FROM Student S1, Enrolled_in E1
WHERE S1.stuid = E1.stuid AND (E.grade IN ('C+', 'C' ,'C-' ,'D')))
GROUP BY S.stuid
HAVING COUNT(P.actid) >= 2;

StuName	Major	COUNT(P.actid)
Linda Smith	Computer Science	21
Tracy Kim	Computer Science	8
Shiela Jones	Computer Science	5
Dinesh Kumar	Computer Science	12
Paul Gompers	Computer Science	3
Andy Schultz	Computer Science	5
Lisa Apap	Computer Science	8
Jandy Nelson	Computer Science	20
Eric Tai	Computer Science	18
Derek Lee	Computer Science	5
David Adams	Computer Science	6
Steven Davis	Computer Science	5
Charles Norris	Computer Science	42
Susan Lee	Computer Science	4
Mark Schwartz	Computer Science	14
Bruce Wilson	Computer Science	15
Michael Leighton	Computer Science	30
Arthur Pang	Computer Science	10
Ian Thornton	ECE	5

George Andreou	ECE	16
Michael Woods	Chemical Engineering	16
David Shieber	ECE	16
Stacy Prater	Chemical Engineering	21
Mark Goldman	ECE	18
Eric Rugh	Mathematical Sciences	6
Jun Han	History	10
Lisa Cheng	Mathematical Sciences	14
William Simms	Mathematical Sciences	5
Eric Epp	Cognitive Science	20

21:17:02 SUCCESS [SELECT - 1 rows, 0.089 secs] Result set fetched
/*Query 9*/
SELECT stuname AS StuName, major AS Major, activitynumber AS ActivityNumber
FROM(
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.DName AS Major, count(P.actid) AS ActivityNumber
FROM Loves L, Student S, Department D, Participates_in P
WHERE S.major = D.dno AND S.stuid = P.stuid AND L.whoisloved = S.stuid
GROUP BY S.stuid) A
WHERE activitynumber IN (SELECT MAX(activitynumber) FROM (SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.DName AS Major, count(P.actid) AS ActivityNumber
FROM Loves L, Student S, Department D, Participates_in P
WHERE S.major = D.dno AND S.stuid = P.stuid AND L.whoisloved = S.stuid
GROUP BY S.stuid) A);

StuName	Major	ActivityNumber
Stacy Prater	Chemical Engineering	9

21:17:02 SUCCESS [SELECT - 1 rows, 0.103 secs] Result set fetched
/*Query 12*/
SELECT dormid AS DormID, student_capacity AS Capacity
FROM(
SELECT D.dormid, D.student_capacity,COUNT(H.amenid) AS AmenNum
FROM Has_amenity as H, Dorm as D
WHERE H.dormid = D.dormid
GROUP BY H.dormid) A
WHERE A.amennum IN (SELECT MAX(amennum) FROM (SELECT amennum
FROM(
SELECT D.dormid, D.student_capacity,COUNT(H.amenid) AS AmenNum
FROM Has_amenity as H, Dorm as D
WHERE H.dormid = D.dormid
GROUP BY H.dormid)B)C);

DormID	Capacity
160	400

21:17:02 SUCCESS [SELECT - 1 rows, 0.076 secs] Result set fetched
/*Query 13*/
SELECT AVG(S.age) AS AvgAge
FROM Student S
WHERE S.stuid IN (
SELECT stuid FROM Student S1
EXCEPT

SELECT P.stuid FROM Participates_in P, Student S2 WHERE P.stuid = S2.stuid);

AvgAge
19.2500

21:17:02 SUCCESS [SELECT - 1 rows, 0.130 secs] Result set fetched
/*Query 15*/
SELECT stuname AS StuName, majorname AS MajorName, advisorname AS AdvisorName
FROM(
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS MajorName, CONCAT(F.fname, " ", F.lname)
AS AdvisorName, distance
FROM Student S, Department D, Direct_distance D1, Faculty F, Enrolled_in E, Course C, City C1
WHERE S.stuid = E.stuid AND E.cid = C.cid AND C.cname = 'COMPUTER VISION' AND S.major = D.dno AND
F.facid = S.advisor
AND C1.city_name = 'Baltimore' AND C1.state = 'MD' AND (C1.city_code = D1.city1_code AND S.city_code =
D1.city2_code)
GROUP BY E.stuid) A
WHERE distance IN (SELECT MAX(distance) FROM (
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, D.dname AS MajorName, CONCAT(F.fname, " ", F.lname)
AS AdvisorName, distance
FROM Student S, Department D, Direct_distance D1, Faculty F, Enrolled_in E, Course C, City C1
WHERE S.stuid = E.stuid AND E.cid = C.cid AND C.cname = 'COMPUTER VISION' AND S.major = D.dno AND
F.facid = S.advisor
AND C1.city_name = 'Baltimore' AND C1.state = 'MD' AND (C1.city_code = D1.city1_code AND S.city_code =
D1.city2_code)
GROUP BY E.stuid) A);

StuName	MajorName	AdvisorName
Bruce Wilson	Computer Science	Gerald Masson

21:17:03 SUCCESS [SELECT - 2 rows, 0.090 secs] Result set fetched
/*Query 16*/
SELECT stuname AS StuName, sex AS Sex, dormid AS DormID, dormname AS DormName
FROM (SELECT CONCAT(S.fname,' ',S.lname) AS StuName, S.sex AS Sex, D1.dormid AS DormID,
D1.dorm_name AS DormName, D2.distance
FROM Dorm D1, Lives_in L, Direct_distance D2, Student S, City C
WHERE D1.dormid = L.dormid AND S.stuid = L.stuid AND S.city_code = D2.city2_code AND C.city_name =
'Baltimore' AND C.state = 'MD' AND C.city_code = D2.city1_code
GROUP BY S.stuid) A
WHERE distance IN (SELECT MAX(distance) FROM (SELECT CONCAT(S.fname,' ',S.lname) AS StuName, S.sex
AS Sex, D1.dormid AS DormID, D1.dorm_name AS DormName, D2.distance
FROM Dorm D1, Lives_in L, Direct_distance D2, Student S, City C
WHERE D1.dormid = L.dormid AND S.stuid = L.stuid AND S.city_code = D2.city2_code AND C.city_name =
'Baltimore' AND C.state = 'MD' AND C.city_code = D2.city1_code
GROUP BY S.stuid) B);

StuName	Sex	DormID	DormName
Susan Lee	F	160	Dorm-plex 2000
Tracy Kim	F	100	Smith Hall

21:17:03 SUCCESS [SELECT - 0 rows, 0.089 secs] Empty result set fetched
/*Query 18*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName
FROM Student S, City C,Lives_in L,Dorm D1, Department D2, Has_Allergy H

WHERE S.city_code = C.city_code AND C.city_name = 'New York' AND L.stuid = S.stuid AND L.dormid = D1.dormid AND D1.dorm_name = 'Wolman'
AND S.major = D2.dno AND D2.dname = 'Computer Science' AND S.stuid = H.stuid AND H.allergy = 'Peanut Butter';

StuName
NULL

21:17:03 SUCCESS [SELECT - 0 rows, 0.069 secs] Empty result set fetched
/*Query 20*/
SELECT C.cname AS CourseName, C.cid AS CourseID, COUNT(E.stuid) AS NumberEnrolled
FROM Course C,Enrolled_in E
WHERE C.cid = E.cid
GROUP BY E.stuid
HAVING COUNT(E.stuid)<3;

CourseName	CourseID	NumberEnrolled
NULL	NULL	NULL

21:17:03 SUCCESS [SELECT - 25 rows, 0.063 secs] Result set fetched
/*Query 23*/
SELECT COUNT(E.Grade) as A_Rate, C.cid AS CourseID
FROM Course C, Enrolled_in E, Department D
WHERE C.dno = D.dno AND C.cid = E.cid AND (D.dname = 'Computer Science' OR D.dname = 'ECE') AND (E.grade = 'A' OR E.grade = 'A+')
GROUP BY E.stuid;

A_Rate	CourseID
1	600.337
1	600.337
2	600.463
2	600.103
1	600.315
1	600.315
1	600.415
1	520.349
1	600.107
4	600.107
3	600.227
1	600.461
2	600.211
2	600.227
5	600.333
1	600.463
4	600.107
2	600.463
2	520.213
5	520.349
5	600.227
1	600.463
1	600.437
2	600.303

4	600.113

21:17:04 SUCCESS [SELECT - 2 rows, 0.117 secs] Result set fetched
/*Query 25*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName
FROM Student S
WHERE NOT EXISTS(
SELECT DISTINCT A.allergytype FROM Allergy_Type A
EXCEPT
SELECT DISTINCT A1.allergytype FROM Allergy_Type A1, Has_Allergy H WHERE H.allergy = A1.allergy AND
S.stuid = H.stuid);

StuName
Lisa Apap
Derek Lee

21:17:04 SUCCESS [SELECT - 1 rows, 0.062 secs] Result set fetched
/*Query 26*/
SELECT allergy AS AllergyName, allergytype AS AllergyType
FROM(
SELECT A.allergy, A.allergytype ,COUNT(A.allergy) AS AllergyCount
FROM Student S, Has_Allergy H, Allergy_Type A
WHERE S.stuid = H.stuid AND S.age > 25 AND A.allergy = H.allergy
GROUP BY H.Allergy
ORDER BY COUNT(A.allergy) DESC) A
HAVING MAX(A.allergycount);

AllergyName	AllergyType
Tree Pollen	environmental

21:17:04 SUCCESS [SELECT - 5 rows, 0.085 secs] Result set fetched
/*Query 27*/
SELECT DISTINCT(CASE WHEN stu1<stu2 THEN CONCAT(stu1,' ',stu2) ELSE CONCAT(stu2,' ',stu1) END) AS
RoommatePairs
FROM(SELECT DISTINCT A.stu1, A.stu2
FROM(SELECT L1.stuid AS stu1, L2.stuid AS stu2
FROM Lives_in L1,Lives_in L2
WHERE L1.dormid = L2.dormid AND L1.room_number = L2.room_number AND NOT L1.stuid = L2.stuid) A
WHERE NOT EXISTS (
SELECT *
FROM Preferences P1, Preferences P2
WHERE P1.stuid = A.stu1 AND P2.stuid = A.stu2 AND P1.musictype = P2.musictype AND P1.SleepHabits =
P2.SleepHabits
AND (P1.Smoking = P2.Smoking OR (P1.Smoking = 'Yes' AND P2.Smoking = 'no-accept') OR (P1.smoking = 'no'
AND P2.smoking = 'no-accept')))) A
GROUP BY roommatepairs;

RoommatePairs
1001 1032
1002 1031
1005 1012
1020 1021
1023 1025

21:17:04 SUCCESS [SELECT - 4 rows, 0.065 secs] Result set fetched
/*Query 28*/
SELECT   CONCAT(ROUND((COUNT(DISTINCT   S1.stuid)/COUNT(DISTINCT   S2.stuid)) * 100,2), '%') AS
Percentage,D.dname AS Major, D.dno AS MajorNum
FROM Student S1, Student S2, Department D
WHERE S1.major = D.dno AND S2.major = D.dno AND S1.stuid IN (
SELECT DISTINCT S.stuid FROM Student S, Preferences P WHERE S.stuid = P.stuid AND P.smoking = "no")
GROUP BY majornum
HAVING COUNT(S1.stuid)>=1;

Percentage	Major	MajorNum
100.00%	Cognitive Science	50
100.00%	History	100
80.00%	Mathematical Sciences	550
38.89%	Computer Science	600

21:17:05 SUCCESS [SELECT - 1 rows, 0.078 secs] Result set fetched
/*Query 29*/
SELECT dno AS MajorNum, dname AS MajorName
FROM(
SELECT(COUNT(DISTINCT S1.stuid)/ COUNT(DISTINCT S2.stuid)) AS Percentage, D.dname, D.dno
FROM Student S1,Student S2, Department D
WHERE S1.major = D.dno AND S2.major = D.dno AND S1.StuID IN (SELECT DISTINCT S.stuid FROM Student S,
Preferences P WHERE S.stuid = P.stuid AND P.smoking = "no")
GROUP BY D.dno
HAVING COUNT(S1.stuid) > 3) A
WHERE percentage IN (SELECT MAX(percentage) FROM (
SELECT(COUNT(DISTINCT S1.stuid)/ COUNT(DISTINCT S2.stuid)) AS Percentage, D.dname, D.dno
FROM Student S1,Student S2, Department D
WHERE S1.major = D.dno AND S2.major = D.dno AND S1.StuID IN (SELECT DISTINCT S.stuid FROM Student S,
Preferences P WHERE S.stuid = P.stuid AND P.smoking = "no")
GROUP BY D.dno
HAVING COUNT(S1.stuid) > 3) B);

MajorNum	MajorName
550	Mathematical Sciences

21:17:05 SUCCESS [SELECT - 12 rows, 0.068 secs] Result set fetched
/*Query 30*/
SELECT A.allergytype as AllergyType, H.Allergy AS AllergyName, C.state AS State
FROM Student S, City C, Has_Allergy H, Allergy_Type A
WHERE S.city_code = C.city_code AND H.StuID = S.stuid AND A.allergy = H.allergy
GROUP BY C.state
HAVING COUNT(S.stuid) >= 2
ORDER BY COUNT(H.Allergy) DESC;

AllergyType	AllergyName	State
environmental	Ragweed	PA
food	Nuts	TX
environmental	Tree Pollen	NY
food	Shellfish	HK

animal	Cat	MD
food	Soy	BE
food	Nuts	ON
food	Nuts	MI
animal	Dog	DC
environmental	Tree Pollen	CA
food	Nuts	IL
environmental	Tree Pollen	EN

21:17:05 SUCCESS [SELECT - 7 rows, 0.066 secs] Result set fetched
/*Query 32*/
SELECT DISTINCT CONCAT(S.fname,' ',S.lname) AS StuName, S.age AS Age, D.dname AS Major, CONCAT(F.fname,' ',F.lname) AS AdvisorName
FROM Student S, Department D, Enrolled_in E, Faculty F, Course C
WHERE S.stuid = E.stuid AND S.major = D.dno AND S.advisor = F.facid AND E.cid = C.cid AND C.Instructor = S.advisor;

StuName	Age	Major	AdvisorName
Linda Smith	18	Computer Science	Michael Goodrich
Tracy Kim	19	Computer Science	Baruch Awerbuch
Shiela Jones	21	Computer Science	Eric Brill
Paul Gompers	26	Computer Science	Michael Goodrich
Lisa Apap	18	Computer Science	Yair Amir
Lisa Apap	18	Computer Science	Jason Eisner
Mark Schwartz	17	Computer Science	David Yarowsky

21:17:05 SUCCESS [SELECT - 2 rows, 0.061 secs] Result set fetched
/*Query 33*/
SELECT D.division AS Division, COUNT(E.stuid) AS EnrollNumber
FROM Department D, Enrolled_in E, Course C
WHERE D.dno = C.dno AND E.cid = C.cid
GROUP BY D.division
ORDER BY COUNT(E.stuid);

Division	EnrollNumber
AS	18
EN	194

21:17:05 SUCCESS [SELECT - 52 rows, 0.059 secs] Result set fetched
/*Query 34*/
SELECT DISTINCT F.fname AS FirstName, COUNT(F.fname) as NameCount
FROM Faculty F
GROUP BY F.fname
HAVING COUNT(fname) > 1
ORDER BY COUNT(fname) DESC;

FirstName	NameCount
Michael	6
John	4
William	4
Robert	4
Louis	2
Edward	2

Howard	2
Gerald	2
Thordur	2
Geraldine	2
Lawrence	2
Cheng	2
Brian	2
Baruch	2
Carey	2
Gert	2
Stacey	2
Daniel	2
Wilson	2
Jacob	2
Steven	2
Alexander	2
Richard	2
Eric	2
James	2
Andreas	2
David	2
Frederic	2
Frederick	2
Leslie	2
Shih-Ping	2
Jerry	2
Russell	2
Alan	2
Lenore	2
Scott	2
Charles	2
Mark	2
Rao	2
Paul	2
Jong-Shi	2
Ellie	2
Luigi	2
Brenda	2
Joanne	2
Gerard	2
Lancelot	2
Arthur	2
Pablo	2
Colin	2
Subodh	2
Oliver	2

21:17:06 SUCCESS [SELECT - 1 rows, 0.064 secs] Result set fetched
/*Query 35*/
SELECT fname AS FirstName, nameCount AS NameCount
FROM(SELECT fname, SUM(NameCount) AS NameCount
FROM (

```
SELECT X.fname, X.NameCount
FROM (SELECT S.fname, COUNT(*) AS NameCount, RANK() over (ORDER BY COUNT(*) DESC) AS Rank
FROM Student S
GROUP BY S.fname) X
UNION ALL
SELECT Y.fname, Y.NameCount
FROM (SELECT F.fname, COUNT(*) AS NameCount, RANK() over (ORDER BY COUNT(*) DESC) AS Rank
FROM Faculty F
GROUP BY F.fname) Y) T
GROUP BY fname
) A
WHERE namecount IN (SELECT MAX(namecount) FROM(SELECT fname, SUM(NameCount) AS NameCount
FROM (  SELECT X.fname, X.NameCount
FROM (SELECT S.fname, COUNT(*) AS NameCount, RANK() over (ORDER BY COUNT(*) DESC) AS Rank
FROM Student S
GROUP BY S.fname) X
UNION ALL
SELECT Y.fname, Y.NameCount
FROM (SELECT F.fname, COUNT(*) AS NameCount, RANK() over (ORDER BY COUNT(*) DESC) AS Rank
FROM Faculty F
GROUP BY F.fname) Y) T
GROUP BY fname
) B);
```

FirstName	NameCount
Michael	8

21:17:06 SUCCESS [SELECT - 1 rows, 0.070 secs] Result set fetched
/*Query 36*/
```
SELECT dname AS Department, enrollnum AS EnrollNumber
FROM( SELECT dname , SUM(enroll_count) as enrollnum
FROM(
SELECT D.dname, COUNT(E.stuid) as enroll_count
FROM Department D, Enrolled_in E, Course C
WHERE D.dno = C.dno AND E.cid = C.cid
GROUP BY E.cid
ORDER BY COUNT(E.stuid)) A
GROUP BY dname) B
WHERE enrollnum IN (SELECT MIN(enrollnum) FROM (
SELECT dname , SUM(enroll_count) as enrollnum
FROM( SELECT D.dname, COUNT(E.stuid) as enroll_count
FROM Department D, Enrolled_in E, Course C
WHERE D.dno = C.dno AND E.cid = C.cid
GROUP BY E.cid
ORDER BY COUNT(E.stuid)) A
GROUP BY dname)B);
```

Department	EnrollNumber
ECE	14

21:17:06 SUCCESS [SELECT - 10 rows, 0.070 secs] Result set fetched
/*Query 37*/
```
SELECT CONCAT(S.fname, ' ', S.lname) AS StuName, C.cname AS CourseName, CONCAT(F.fname, ' ', F.lname)
AS InstructorName, E.grade AS Grade
```

FROM Student S, Enrolled_in E, Faculty F,Preferences P, Course C
WHERE S.stuid = P.stuid AND E.cid = C.cid AND F.facid = C.instructor AND E.stuid = S.stuid
AND P.sleephabits = 'EarlyRiser' AND P.smoking = 'no' AND S.stuid NOT IN (SELECT S2.stuid FROM Student S2,
Has_Allergy H WHERE S2.stuid = H.stuid);

StuName	CourseName	InstructorName	Grade
Eric Epp	MIND, BRAIN, COMPUTERS	Paul Smolensky	B+
Eric Epp	MIND, BRAIN, COMPUTERS	Paul Smolensky	B+
Eric Epp	COGNITIVE NEUROSCIENCE	Brenda Rapp	B
Eric Epp	COGNITIVE NEUROSCIENCE	Brenda Rapp	B
Eric Epp	SOUND STRUCTURES IN NATURAL LANGUAGE	Luigi Burzio	B
Eric Epp	SOUND STRUCTURES IN NATURAL LANGUAGE	Luigi Burzio	B
Eric Epp	INTRO TO PROGRAMMING IN JAVA	Stacey Jones	B+
Eric Epp	INTRO TO PROGRAMMING IN JAVA	Stacey Jones	B+
Eric Epp	DATABASE SYSTEMS	David Yarowsky	B
Eric Epp	DATABASE SYSTEMS	David Yarowsky	B

21:17:06 SUCCESS [SELECT - 2 rows, 0.061 secs] Result set fetched
/*Query 38*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, S.age AS Age
FROM Student S
WHERE S.age = (SELECT MIN(S.age) FROM Student S)
UNION
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, S.age AS Age
FROM Student S
WHERE S.age = (SELECT MAX(S.age) FROM Student S);

StuName	Age
Susan Lee	16
Bruce Wilson	27

21:17:07 SUCCESS [SELECT - 4 rows, 0.065 secs] Result set fetched
/*Query 39*/
SELECT D.DName AS Department, A.anum AS ANumber, COUNT(E2.StuID) AS EnrollNumber,
CONCAT(ROUND((A.anum / COUNT(E2.StuID) *100),2),'%') AS Percentage
FROM (
SELECT COUNT(E1.stuid) AS ANum, C1.dno
FROM Course C1, Enrolled_in E1
WHERE C1.CID = E1.CID AND E1.Grade IN ('A+', 'A', 'A-')
GROUP BY C1.dno) A, Enrolled_in E2, Department D, Course C2
WHERE A.dno = C2.dno AND E2.CID = C2.CID AND C2.DNO = D.DNO
GROUP BY C2.dno;

Department	ANumber	EnrollNumber	Percentage
Cognitive Science	5	18	27.78%
ECE	7	14	50.00%
Mathematical Sciences	18	45	40.00%
Computer Science	57	135	42.22%

21:17:07 SUCCESS [SELECT - 9 rows, 0.068 secs] Result set fetched
/*Query 40*/
SELECT DISTINCT(CASE WHEN stuname1<stuname2 THEN CONCAT(stuname1,',',stuname2) ELSE
CONCAT(stuname2,',',stuname1) END) AS CoursePairs

FROM(

SELECT DISTINCT CONCAT(S1.fname,' ', S1.lname) AS StuName1, CONCAT(S2.fname, ' ', S2.lname) AS StuName2

FROM(

SELECT E1.stuid AS ID1, E2.stuid AS ID2

FROM Enrolled_in E1, Enrolled_in E2

WHERE E1.cid = E2.cid AND NOT E1.stuid = E2.stuid) P, Student S1, Student S2

WHERE S1.stuid = P.id1 AND S2.stuid = P.id2 AND S1.fname = S2.fname) Pair;

CoursePairs
Paul Brody,Paul Gompers
Lisa Apap,Lisa Cheng
Mark Goldman,Mark Schwartz
Michael Leighton,Michael Woods
Eric Brown,Eric Pang
Eric Pang,Eric Rugh
Eric Brown,Eric Rugh
Eric Epp,Eric Rugh
Eric Brown,Eric Epp

21:17:07 SUCCESS [SELECT - 1 rows, 0.122 secs] Result set fetched

/*Query 41*/

SELECT COUNT(*) AS TotalNumber

FROM Student S, Preferences P, Department D

WHERE S.stuid = P.stuid AND P.smoking = 'Yes' AND S.major = D.dno AND D.dname = 'Computer Science'

AND S.stuid NOT IN (SELECT DISTINCT L.wholikes FROM Likes L);

TotalNumber
1

21:17:07 SUCCESS [SELECT - 7 rows, 0.117 secs] Result set fetched

/*Query 44*/

SELECT C.cid AS CID, C.cname AS CourseName, C.credits AS Credits, E.grade AS LetGrade, G.gradepoint AS GradePoint

FROM Course C, Student S, Enrolled_in E, Gradeconversion G

WHERE S.stuid = E.stuid AND E.cid = C.cid AND S.fname = 'Bruce' AND S.lname = 'Wilson' AND E.grade = G.lettergrade;

CID	CourseName	Credits	LetGrade	GradePoint
050.427	THE HISTORY OF ROMANCE LANGUAGES	3	B	3.0
050.670	FORMAL METHODS IN COGNITIVE SCIENCE	3	B	3.0
050.802	RESEARCH SEMINAR IN COGNITIVE PROCESSES	1	C	2.0
550.681	NUMERICAL ANALYSIS	3	B	3.0
600.109	INTRO TO PROGRAMMING IN C/C++	3	A-	3.7
600.461	COMPUTER VISION	3	A	4.0
600.465	INTRO TO NATURAL LANGUAGE PROCESSING	3	C	2.0

21:17:08 SUCCESS [SELECT - 1 rows, 0.075 secs] Result set fetched

/*Query 45*/

SELECT S.stuid AS StuID, SUM(credits) AS TotalCredit, ROUND(SUM(credits * gradepoint) / SUM(credits),1) AS GPA

FROM (SELECT C.cid AS CID, D.dno, C.credits AS Credits, G.gradepoint AS GradePoint

FROM Course C, Student S, Enrolled_in E, Gradeconversion G, Department D

WHERE S.stuid = E.stuid AND E.cid = C.cid AND S.fname = 'Bruce' AND S.lname = 'Wilson' AND E.grade = G.lettergrade AND D.dno = C.dno) B, Student S
WHERE S.major = B.dno AND S.fname = 'Bruce' AND S.lname = 'Wilson';

StuID	TotalCredit	GPA
1017	9	3.2

21:17:08 SUCCESS [SELECT - 30 rows, 13.962 secs] Result set fetched
/*Query 46*/
SELECT CONCAT(S.fname,' ', S.lname) AS StuName, ROUND(SUM(credits * gradepoint) / SUM(credits),1) AS GPA
FROM (SELECT C.cid AS CID, D.dno, C.credits AS Credits, G.gradepoint AS GradePoint
FROM Course C, Student S, Enrolled_in E, Gradeconversion G, Department D
WHERE S.stuid = E.stuid AND E.cid = C.cid AND E.grade = G.lettergrade AND D.dno = C.dno) B, Student S
WHERE S.major = B.dno
GROUP BY S.stuid;

StuName	GPA
Linda Smith	3.3
Tracy Kim	3.3
Shiela Jones	3.3
Dinesh Kumar	3.3
Paul Gompers	3.3
Andy Schultz	3.3
Lisa Apap	3.3
Jandy Nelson	3.3
Eric Tai	3.3
Derek Lee	3.3
David Adams	3.3
Steven Davis	3.3
Charles Norris	3.3
Susan Lee	3.3
Mark Schwartz	3.3
Bruce Wilson	3.3
Michael Leighton	3.3
Arthur Pang	3.3
Ian Thornton	3.4
George Andreou	3.4
David Shieber	3.4
Mark Goldman	3.4
Eric Pang	3.4
Paul Brody	3.4
Eric Rugh	3.2
Lisa Cheng	3.2
Sarah Smith	3.2
Eric Brown	3.2
William Simms	3.2
Eric Epp	2.9

21:17:22 SUCCESS [SELECT - 7 rows, 11.555 secs] Result set fetched
/*Query 48*/
SELECT D.dormid AS DormID, D.dorm_name AS DormName, AVG(A.gpa) as AvgGPA
FROM (SELECT S.stuid, ROUND(SUM(credits * gradepoint) / SUM(credits),1) AS GPA

FROM (SELECT C.cid AS CID, D.dno, C.credits AS Credits, G.gradepoint AS GradePoint
FROM Course C, Student S, Enrolled_in E, Gradeconversion G, Department D
WHERE S.stuid = E.stuid AND E.cid = C.cid AND E.grade = G.lettergrade AND D.dno = C.dno) B, Student S
WHERE S.major = B.dno
GROUP BY S.stuid) A, Dorm D,Student S, Lives_in L
WHERE A.stuid = S.stuid AND D.dormid = L.dormid AND S.stuid = L.stuid
GROUP BY D.dormid
ORDER BY AVG(A.gpa) DESC;

DormID	DormName	AvgGPA
140	Fawlty Towers	3.3125
104	Grad Student Asylum	3.3
160	Dorm-plex 2000	3.3
100	Smith Hall	3.26667
109	Anonymous Donor Hall	3.23333
117	University Hovels	3.2
110	Bud Jones Hall	3.2

21:17:34 SUCCESS [SELECT - 3 rows, 0.069 secs] Result set fetched
/*Query 49*/
SELECT A.dno AS Department, A.musictype AS MusicType, A.TotalNumber AS TotalNumber
FROM (SELECT D1.dno, P.musictype, COUNT(S.stuid) AS TotalNumber
FROM (SELECT D.dno
FROM Department D, Student S
WHERE D.dno = S.Major
GROUP BY D.dno
HAVING COUNT(S.stuid) > 3) D1, Student S, Preferences P
WHERE S.stuid = P.stuid AND S.major = D1.dno
GROUP BY D1.dno, P.musictype) A
WHERE NOT EXISTS
(SELECT * FROM (SELECT D1.dno, P.musictype, COUNT(S.stuid) AS TotalNumber
FROM (SELECT D.dno
FROM Department D, Student S
WHERE D.dno = S.Major
GROUP BY D.dno
HAVING COUNT(S.stuid) > 3) D1, Student S, Preferences P
WHERE S.stuid = P.stuid AND S.major = D1.dno
GROUP BY D1.dno, P.musictype) B WHERE B.dno =A.dno and A.totalnumber<B.totalnumber);

Department	MusicType	TotalNumber
520	StudiesWith	5
550	StudiesWithout	3
600	StudiesWithout	11

21:17:34 SUCCESS [DROP - 0 rows, 0.093 secs] OK. No rows were affected
/*Query 50*/
DROP TABLE GradeMap;
21:17:34 SUCCESS [CREATE - 0 rows, 0.032 secs] OK. No rows were affected
CREATE TABLE GradeMap
(
 LetterGrade VARCHAR(2),
 NextGrade VARCHAR(2)
 );

21:17:34 SUCCESS [INSERT - 11 rows, 0.040 secs] OK
INSERT INTO GradeMap VALUES ('A+', 'A'),('A', 'A-'),('A-', 'B+'),('B+', 'B'),('B', 'B-'),('B-', 'C+'),('C+', 'C'),('C', 'C-'),('C-', 'D+'), ('D', 'D-'),('F', 'F');

/*Update Table: donnot run*/

-- UPDATE Enrolled_in E SET E.grade = G.nextgrade
-- FROM GradeMap G
-- INNER JOIN GradeMap G ON E.grade = G.lettergrade
-- WHERE E.stuid IN (
-- SELECT E.stuid
-- FROM Student S, Enrolled_in E, Course C, Faculty F
-- WHERE S.stuid = E.stuid AND E.cid = C.cid AND C.instructor = F.facid AND S.lname = F.lname);

21:17:34 SUCCESS [SELECT - 1 rows, 0.047 secs] Result set fetched
/*Query 52*/
SELECT dormname AS DormName, gender AS Gender
FROM(
SELECT D.dorm_name AS DormName, D.gender AS Gender,B.percentage
FROM Dorm D,(
SELECT A.Trump / COUNT(*) AS percentage, L1.dormid
FROM Lives_in L1, Student S1,
(SELECT D.dormid, COUNT(L.stuid) AS Trump
FROM Lives_in L, VotedForElectioninUS V, Dorm D
WHERE L.stuid = V.stuid AND D.dormid = L.dormid AND V.CandidateID IN (SELECT U.CandidateId FROM USCandidate U WHERE U.candidatename = 'Donald Trump')
GROUP BY D.dormid) A
WHERE L1.stuid = S1.stuid AND A.dormid = L1.dormid
GROUP BY L1.dormid) B
WHERE D.dormid = B.dormid) C
WHERE percentage IN (SELECT MAX(percentage) FROM(SELECT D.dorm_name AS DormName, D.gender AS Gender,B.percentage
FROM Dorm D,(
SELECT A.Trump / COUNT(*) AS percentage, L1.dormid
FROM Lives_in L1, Student S1,
(SELECT D.dormid, COUNT(L.stuid) AS Trump
FROM Lives_in L, VotedForElectioninUS V, Dorm D
WHERE L.stuid = V.stuid AND D.dormid = L.dormid AND V.CandidateID IN (SELECT U.CandidateId FROM USCandidate U WHERE U.candidatename = 'Donald Trump')
GROUP BY D.dormid) A
WHERE L1.stuid = S1.stuid AND A.dormid = L1.dormid
GROUP BY L1.dormid) B
WHERE D.dormid = B.dormid) C);

DormName	Gender
Fawlty Towers	X

21:17:35 SUCCESS [SELECT - 1 rows, 0.058 secs] Result set fetched
/*Query 53*/
SELECT dorm_name AS DormName, totaloccupancy AS TotalOccupancy, student_capacity AS OfficalCapaacity
FROM(
SELECT D.dorm_name, COUNT(L.stuid) AS TotalOccupancy, D.student_capacity
FROM Dorm D, Lives_in L
WHERE D.dormid = L.dormid

GROUP BY D.dormid) A
WHERE totaloccupancy IN (SELECT MAX(totaloccupancy) FROM (
SELECT D.dorm_name, COUNT(L.stuid) AS TotalOccupancy, D.student_capacity
FROM Dorm D, Lives_in L
WHERE D.dormid = L.dormid
GROUP BY D.dormid) A);

DormName	TotalOccupancy	OfficalCapaacity
Dorm-plex 2000	10	400

21:17:35 SUCCESS [SELECT - 10 rows, 0.059 secs] Result set fetched
/*Query 54*/
SELECT DISTINCT CONCAT(S.fname,' ', S.lname) AS StuName, S.age AS Age, C.city_name AS CityName
FROM Lives_in L1, Student S, City C
WHERE S.stuid = L1.stuid AND S.city_code = C.city_code AND L1.dormid = (
SELECT A.dormid
FROM(
SELECT D.dorm_name, D.dormid, COUNT(L.stuid) AS TotalOccupancy
FROM Dorm D, Lives_in L
WHERE D.dormid = L.dormid
GROUP BY D.dormid) A
WHERE totaloccupancy IN (SELECT MAX(totaloccupancy) FROM (
SELECT D.dorm_name, COUNT(L.stuid) AS TotalOccupancy
FROM Dorm D, Lives_in L
WHERE D.dormid = L.dormid
GROUP BY D.dormid) A));

StuName	Age	CityName
Jandy Nelson	20	Baltimore
Steven Davis	20	Pittsburgh
Mark Goldman	18	Pittsburgh
Ian Thornton	22	New York
George Andreou	19	New York
David Shieber	20	New York
Eric Epp	18	Boston
Derek Lee	17	Houston
Paul Gompers	26	Toronto
Susan Lee	16	Hong Kong

21:17:35 SUCCESS [SELECT - 0 rows, 0.058 secs] Empty result set fetched
/*Query 55*/
SELECT D.dorm_name AS DormName, D.student_capacity AS OfficalCapacity
FROM Dorm D, Lives_in L
WHERE D.dormid = L.dormid
GROUP BY D.dormid
HAVING COUNT(L.stuid) > D.student_capacity;

DormName	OfficalCapacity
NULL	NULL

21:17:35 SUCCESS [SELECT - 0 rows, 0.067 secs] Empty result set fetched
/*Query 56*/
SELECT D.dorm_name AS DormName, D.student_capacity AS OfficalCapacity, COUNT(L.stuid) as

ActualNumbers, CONCAT((COUNT(L.stuid) - D.student_capacity) / D.student_capacity,'%') AS PercantageAbove
FROM Dorm D, Lives_in L
WHERE D.dormid = L.dormid
GROUP BY D.dormid
HAVING COUNT(L.stuid) > D.student_capacity;

DormName	OfficalCapacity	ActualNumbers	PercantageAbove
NULL	NULL	NULL	NULL

21:17:35 SUCCESS [SELECT - 2 rows, 0.136 secs] Result set fetched
/*Query 59*/
SELECT DISTINCT R.research_area AS ResearchArea, S.major AS Major, CONCAT(S.fname,' ', S.lname) AS StuName
FROM Student S, Researches R, Member_of M, Minor_in M1
WHERE S.stuid = R.stuid AND (R.facmentorid = M.facid AND NOT S.major = M.dno) OR (R.stuid = M1.stuid AND NOT M1.dno = M.dno);

ResearchArea	Major	StuName
Theoretical Computer Science	600	Linda Smith
Neuropsychology	50	Eric Epp

21:17:36 SUCCESS [SELECT - 1 rows, 0.110 secs] Result set fetched
/*Query 61*/
SELECT DISTINCT P.stuid AS StuID1, CONCAT(P.fname,' ', P.lname)AS StuName1, S.stuid AS StuID2, CONCAT(S.fname,' ', S.lname) AS StuName2
FROM (SELECT C.stuid, S.fname, S.lname
FROM CovidDiagnosis C, Student S
WHERE C.TestResult = 'Positive' AND C.testdate > DATE_SUB('2020-09-29',INTERVAL 4 DAY) AND C.stuid = S.stuid) P, Student S, Close_Contact JOIN Close_Contact C
WHERE S.stuid = C.stuid1 AND C.stuid2 = P.stuid AND C.minduration <= 30;

StuID1	StuName1	StuID2	StuName2
1001	Linda Smith	1020	Ian Thornton

21:17:36 SUCCESS [SELECT - 11 rows, 0.064 secs] Result set fetched
/*Query 63*/
SELECT DISTINCT P.stuid AS StuID1, CONCAT(P.fname,' ', P.lname) AS Stu1Name, S.stuid AS StuID2,CONCAT(S.fname,' ', S.lname) AS Stu2Name
FROM (SELECT C.stuid, S.fname, S.lname
FROM CovidDiagnosis C, Student S
WHERE C.TestResult = 'Positive' AND C.testdate >= DATE_SUB('2020-09-29',INTERVAL 14 DAY) AND C.stuid = S.stuid) P, Student S, Close_Contact JOIN Close_Contact C
WHERE S.stuid = C.stuid1 AND C.stuid2 = P.stuid AND C.minduration <= 30
UNION
SELECT DISTINCT D.stuid AS StuID1,CONCAT(D.fname, ' ', D.lname) AS Stu1Name, S.stuid AS StuID2, CONCAT(S.fname, ' ', S.lname) AS Stu2Name
FROM (SELECT C.stuid, S.fname, S.lname
FROM CovidDiagnosis C, Student S
WHERE C.TestResult = 'Positive' AND C.testdate >= DATE_SUB('2020-09-29',INTERVAL 14 DAY) AND C.stuid = S.stuid) D, Student S, Participates_in P1, Participates_in P2
WHERE S.stuid = P1.stuid AND D.stuid = P2.stuid AND P1.actid = P2.actid AND NOT P1.stuid = D.stuid;

StuID1	Stu1Name	StuID2	Stu2Name
1001	Linda Smith	1020	Ian Thornton
1001	Linda Smith	1005	Paul Gompers
1001	Linda Smith	1014	Charles Norris
1001	Linda Smith	1017	Bruce Wilson
1001	Linda Smith	1018	Michael Leighton
1001	Linda Smith	1025	Mark Goldman
1001	Linda Smith	1002	Tracy Kim
1001	Linda Smith	1034	Eric Epp
1001	Linda Smith	1004	Dinesh Kumar
1001	Linda Smith	1009	Eric Tai
1001	Linda Smith	1024	Stacy Prater

21:17:36 SUCCESS [SELECT - 54 rows, 0.098 secs] Result set fetched
/*Query 65*/
SELECT DISTINCT F.facid AS ProfID, CONCAT(F.fname,' ',F.lname) AS ProfName
FROM Course C, Faculty F
EXCEPT
SELECT DISTINCT F.facid AS ProfID, CONCAT(F.fname,' ',F.lname) AS ProfName
FROM Course C, Slept_In_Class S, Faculty F
WHERE C.cid = S.cid AND F.facid = C.instructor;

ProfID	ProfName
1082	Mark Giuliano
1148	Gerald Masson
1193	Stacey Jones
3457	Scott Smith
6112	Louis Beach
7712	Baruch Awerbuch
7792	Eric Brill
7723	Russell Taylor
8114	Ellie Angelopoulou
8423	Subodh Kumar
8721	Lawrence Wolff
8741	Steven Salzberg
8918	Yair Amir
1172	Thordur Runolfsson
1177	Daniel Naiman
1823	Frederic Davidson
2028	William Brody
2119	Gerard Meyer
2291	Edward Scheinerman
2311	Carey Priebe
2738	James Fill
2881	Alan Goldman
4432	Luigi Burzio
5718	Robert Frank
6182	Cheng Cheng
6191	Alexander Kaplan
6330	William Byrne
6541	Shih-Ping Han

6910	Paul Smolensky
6925	Pablo Iglesias
7134	John Goutsias
7231	Wilson Rugh
7271	Frederick Jelinek
7506	Charles Westgate
8102	Lancelot James
8118	Howard Weinert
8122	John Wierman
8722	Gert Cauwenberghs
8723	Andreas Andreou
8772	Lenore Cowen
8791	Michael McCloskey
8989	Michael Brent
9011	Brenda Rapp
9191	Oliver Collins
9199	Brian Hughes
9210	Richard Joseph
9514	Jerry Prince
9823	Jong-Shi Pang
9824	Robert Glaser
9811	Colin Wu
9643	Geraldine Legendre
9379	Jacob Khurgin
9922	Leslie Hall
8918	Jason Eisner

21:17:37 SUCCESS [SELECT - 1 rows, 0.066 secs] Result set fetched
/*Query 66*/
SELECT CONCAT(S.fname,' ',S.lname) as StuName, S.age AS Age, D.dname AS Major
FROM Student S, Department D,
(SELECT E1.stuid FROM Enrolled_in E1
EXCEPT
SELECT E.stuid FROM Enrolled_in E,Course C, Department D
WHERE E.cid = C.cid AND C.dno = D.dno AND D.dname = 'Computer Science') A
WHERE S.stuid = A.stuid AND S.major = D.dno;
21:17:37 SUCCESS [SELECT - 0 rows, 0.068 secs] Empty result set fetched

StuName	Age	Major
Eric Tai	19	Computer Science

/* Query 67*/
SELECT CONCAT(S.fname,' ', S.lname) AS StuName, S.age AS Age, D.dname AS Major
FROM Student S, Enrolled_in E, Department D
WHERE S.stuid = E.stuid AND D.dno = S.major
GROUP BY S.stuid
HAVING COUNT(E.cid) = (SELECT COUNT(C.cid) FROM Course C, Department D
WHERE C.dno = D.dno AND D.dname = 'Computer Science');

StuName	Age	Major
NULL	NULL	NULL

21:17:37 SUCCESS [SELECT - 206 rows, 1.316 secs] Result set fetched
/*Query 69*/
SELECT CONCAT(S.fname,' ', S.lname) AS StuName, S.age AS Age, D.dname AS Major, C.cid AS CourseNum,
C.cname AS CourseName, E.grade AS Grade
FROM Enrolled_in E, Gradeconversion G, Student S, Department D, Course C
WHERE E.grade = G.lettergrade AND S.stuid = E.stuid AND S.major = D.dno AND E.cid = C.cid
AND G.gradepoint >= ALL (
SELECT G.gradepoint
FROM Enrolled_in E1, Gradeconversion G1
WHERE E1.Grade = G1.lettergrade AND E.cid = E1.cid);

StuName	Age	Major	CourseNum	CourseName	Grade
Linda Smith	18	Computer Science	600.303	SUPERCOMPUTING	B
Linda Smith	18	Computer Science	600.315	DATABASE SYSTEMS	B+
Linda Smith	18	Computer Science	600.337	DISTRIBUTED SYSTEMS	A
Linda Smith	18	Computer Science	600.227	DATA STRUCTURES in JAVA	B
Tracy Kim	19	Computer Science	600.211	UNIX SYSTEMS PROGRAMMING	C
Tracy Kim	19	Computer Science	600.303	SUPERCOMPUTING	C+
Tracy Kim	19	Computer Science	600.337	DISTRIBUTED SYSTEMS	A
Shiela Jones	21	Computer Science	600.333	COMPUTER SYSTEM FUNDAMENTALS	B
Shiela Jones	21	Computer Science	600.337	DISTRIBUTED SYSTEMS	B
Shiela Jones	21	Computer Science	600.415	DATABASE SYSTEMS	B
Dinesh Kumar	20	Computer Science	600.303	SUPERCOMPUTING	C-
Dinesh Kumar	20	Computer Science	600.415	DATABASE SYSTEMS	C-
Dinesh Kumar	20	Computer Science	600.437	DISTRIBUTED SYSTEMS	C-
Paul Gompers	26	Computer Science	600.103	INTRODUCTION TO COMPUTER SCIENCE	A
Paul Gompers	26	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	C+
Paul Gompers	26	Computer Science	600.113	EXPLORING THE INTERNET	C
Paul Gompers	26	Computer Science	600.227	DATA STRUCTURES in JAVA	A
Paul Gompers	26	Computer Science	600.303	SUPERCOMPUTING	B
Andy Schultz	18	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	B+

Andy Schultz	18	Computer Science	600.227	DATA STRUCTURES in JAVA	B-
Andy Schultz	18	Computer Science	600.232	MULTIMEDIA COMPUTING	C-
Andy Schultz	18	Computer Science	600.303	SUPERCOMPUTING	A-
Andy Schultz	18	Computer Science	600.315	DATABASE SYSTEMS	A
Lisa Apap	18	Computer Science	600.113	EXPLORING THE INTERNET	A-
Lisa Apap	18	Computer Science	600.227	DATA STRUCTURES in JAVA	C+
Lisa Apap	18	Computer Science	600.315	DATABASE SYSTEMS	A
Lisa Apap	18	Computer Science	600.333	COMPUTER SYSTEM FUNDAMENTALS	A-
Lisa Apap	18	Computer Science	600.337	DISTRIBUTED SYSTEMS	C
Jandy Nelson	20	Computer Science	600.415	DATABASE SYSTEMS	A+
Derek Lee	17	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	B+
David Adams	22	Computer Science	600.415	DATABASE SYSTEMS	B+
Steven Davis	20	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	A
Steven Davis	20	Computer Science	600.315	DATABASE SYSTEMS	B
Charles Norris	18	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	A
Charles Norris	18	Computer Science	600.227	DATA STRUCTURES in JAVA	A
Charles Norris	18	Computer Science	600.232	MULTIMEDIA COMPUTING	A
Charles Norris	18	Computer Science	600.315	DATABASE SYSTEMS	A+
Susan Lee	16	Computer Science	600.227	DATA STRUCTURES in JAVA	A+
Susan Lee	16	Computer Science	600.303	SUPERCOMPUTING	A
Susan Lee	16	Computer Science	600.315	DATABASE SYSTEMS	C-
Susan Lee	16	Computer Science	600.333	COMPUTER SYSTEM FUNDAMENTALS	A
Mark Schwartz	17	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	B+
Mark Schwartz	17	Computer Science	600.315	DATABASE SYSTEMS	B-
Bruce Wilson	27	Computer Science	600.109	INTRO TO PROGRAMMING IN C/C++	A-
Michael Leighton	20	Computer Science	600.211	UNIX SYSTEMS PROGRAMMING	A
Michael	20	Computer	600.303	SUPERCOMPUTING	A

Leighton		Science			
Michael Leighton	20	Computer Science	600.337	DISTRIBUTED SYSTEMS	C-
Arthur Pang	18	Computer Science	600.103	INTRODUCTION TO COMPUTER SCIENCE	B
Arthur Pang	18	Computer Science	600.107	INTRO TO PROGRAMMING IN JAVA	B
Arthur Pang	18	Computer Science	600.113	EXPLORING THE INTERNET	D+
Arthur Pang	18	Computer Science	600.227	DATA STRUCTURES in JAVA	A
Arthur Pang	18	Computer Science	600.303	SUPERCOMPUTING	A
Ian Thornton	22	ECE	600.333	COMPUTER SYSTEM FUNDAMENTALS	A
Ian Thornton	22	ECE	600.337	DISTRIBUTED SYSTEMS	A
Ian Thornton	22	ECE	600.415	DATABASE SYSTEMS	A
George Andreou	19	ECE	600.303	SUPERCOMPUTING	B-
George Andreou	19	ECE	600.303	SUPERCOMPUTING	B
George Andreou	19	ECE	600.415	DATABASE SYSTEMS	B
Michael Woods	17	Chemical Engineering	600.107	INTRO TO PROGRAMMING IN JAVA	A
Michael Woods	17	Chemical Engineering	600.227	DATA STRUCTURES in JAVA	A
Michael Woods	17	Chemical Engineering	600.227	DATA STRUCTURES in JAVA	A
Michael Woods	17	Chemical Engineering	600.232	MULTIMEDIA COMPUTING	B
Michael Woods	17	Chemical Engineering	600.303	SUPERCOMPUTING	B
Michael Woods	17	Chemical Engineering	600.315	DATABASE SYSTEMS	D
David Shieber	20	ECE	600.113	EXPLORING THE INTERNET	A-
David Shieber	20	ECE	600.315	DATABASE SYSTEMS	B
David Shieber	20	ECE	600.333	COMPUTER SYSTEM FUNDAMENTALS	B
David Shieber	20	ECE	600.337	DISTRIBUTED SYSTEMS	B+
Stacy Prater	18	Chemical Engineering	600.415	DATABASE SYSTEMS	B
Mark Goldman	18	ECE	600.107	INTRO TO PROGRAMMING IN JAVA	B
Eric Pang	19	ECE	600.303	SUPERCOMPUTING	A
Paul Brody	18	ECE	600.107	INTRO TO PROGRAMMING IN JAVA	B
Paul Brody	18	ECE	600.227	DATA STRUCTURES in JAVA	B
Paul Brody	18	ECE	600.232	MULTIMEDIA COMPUTING	B
Paul Brody	18	ECE	600.303	SUPERCOMPUTING	B
Paul Brody	18	ECE	600.315	DATABASE SYSTEMS	B-
Eric Rugh	20	Mathematical Sciences	600.227	DATA STRUCTURES in JAVA	A
Eric Rugh	20	Mathematical Sciences	600.315	DATABASE SYSTEMS	A+
Eric Rugh	20	Mathematical	600.333	COMPUTER SYSTEM FUNDAMENTALS	A

		Sciences			
Eric Rugh	20	Mathematical Sciences	600.337	DISTRIBUTED SYSTEMS	A+
Jun Han	17	History	600.113	EXPLORING THE INTERNET	B-
Lisa Cheng	21	Mathematical Sciences	600.107	INTRO TO PROGRAMMING IN JAVA	B
Eric Brown	20	Mathematical Sciences	600.232	MULTIMEDIA COMPUTING	A-
Eric Brown	20	Mathematical Sciences	600.303	SUPERCOMPUTING	A
Eric Brown	20	Mathematical Sciences	600.315	DATABASE SYSTEMS	A
William Simms	18	Mathematical Sciences	600.113	EXPLORING THE INTERNET	A
William Simms	18	Mathematical Sciences	600.227	DATA STRUCTURES in JAVA	A
William Simms	18	Mathematical Sciences	600.315	DATABASE SYSTEMS	A
William Simms	18	Mathematical Sciences	600.333	COMPUTER SYSTEM FUNDAMENTALS	A
William Simms	18	Mathematical Sciences	600.337	DISTRIBUTED SYSTEMS	B
Eric Epp	18	Cognitive Science	600.107	INTRO TO PROGRAMMING IN JAVA	B+
Eric Epp	18	Cognitive Science	600.315	DATABASE SYSTEMS	B
Linda Smith	18	Computer Science	600.461	COMPUTER VISION	B-
Linda Smith	18	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	B
Tracy Kim	19	Computer Science	600.463	ALGORITHMS I	B
Tracy Kim	19	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	B+
Shiela Jones	21	Computer Science	600.461	COMPUTER VISION	B+
Shiela Jones	21	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	B
Dinesh Kumar	20	Computer Science	600.445	QUANTITATIVE MEDICAL COMPUTING	A-
Dinesh Kumar	20	Computer Science	600.461	COMPUTER VISION	C
Dinesh Kumar	20	Computer Science	600.463	ALGORITHMS I	A+
Dinesh Kumar	20	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	A
Jandy Nelson	20	Computer Science	600.463	ALGORITHMS I	B
Jandy Nelson	20	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	B
Jandy Nelson	20	Computer Science	600.657	HIGH PERFORMANCE GRAPHICS AND MODELING	B
Jandy Nelson	20	Computer	600.787	SEMINAR ON COMPUTATIONAL	B

Name	Age	Major	Course #	Course	Grade
		Science		GEOMETRY	
Derek Lee	17	Computer Science	550.291	LINEAR ALGEBRA AND DIFFERENTIAL EQNS	A
Derek Lee	17	Computer Science	550.310	PROBABILITY AND STATISTICS	A
Charles Norris	18	Computer Science	600.445	QUANTITATIVE MEDICAL COMPUTING	B
Charles Norris	18	Computer Science	600.461	COMPUTER VISION	B
Charles Norris	18	Computer Science	600.463	ALGORITHMS I	B
Bruce Wilson	27	Computer Science	600.461	COMPUTER VISION	A
Bruce Wilson	27	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	C
Michael Leighton	20	Computer Science	600.463	ALGORITHMS I	B
Michael Leighton	20	Computer Science	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	B
Ian Thornton	22	ECE	600.461	COMPUTER VISION	A
Ian Thornton	22	ECE	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	A
George Andreou	19	ECE	600.437	DISTRIBUTED SYSTEMS	B
George Andreou	19	ECE	600.437	DISTRIBUTED SYSTEMS	B
George Andreou	19	ECE	600.445	QUANTITATIVE MEDICAL COMPUTING	B-
George Andreou	19	ECE	600.445	QUANTITATIVE MEDICAL COMPUTING	C
George Andreou	19	ECE	600.463	ALGORITHMS I	A
George Andreou	19	ECE	600.463	ALGORITHMS I	B
Michael Woods	17	Chemical Engineering	600.461	COMPUTER VISION	A
David Shieber	20	ECE	600.463	ALGORITHMS I	A
David Shieber	20	ECE	600.465	INTRO TO NATURAL LANGUAGE PROCESSING	A
David Shieber	20	ECE	600.657	HIGH PERFORMANCE GRAPHICS AND MODELING	B
David Shieber	20	ECE	600.787	SEMINAR ON COMPUTATIONAL GEOMETRY	B
Stacy Prater	18	Chemical Engineering	550.291	LINEAR ALGEBRA AND DIFFERENTIAL EQNS	B
Mark Goldman	18	ECE	550.310	PROBABILITY AND STATISTICS	A
Eric Pang	19	ECE	600.437	DISTRIBUTED SYSTEMS	A
Eric Pang	19	ECE	600.445	QUANTITATIVE MEDICAL COMPUTING	A
Eric Pang	19	ECE	600.463	ALGORITHMS I	B-
Paul Brody	18	ECE	600.461	COMPUTER VISION	B-
Paul Brody	18	ECE	600.463	ALGORITHMS I	B
Eric Rugh	20	Mathematical	600.445	QUANTITATIVE MEDICAL COMPUTING	A

		Sciences			
Jun Han	17	History	600.463	ALGORITHMS I	A+
Lisa Cheng	21	Mathematical Sciences	550.291	LINEAR ALGEBRA AND DIFFERENTIAL EQNS	B
Sarah Smith	20	Mathematical Sciences	600.437	DISTRIBUTED SYSTEMS	A+
Linda Smith	18	Computer Science	550.681	NUMERICAL ANALYSIS	A-
Tracy Kim	19	Computer Science	520.213	CIRCUITS	B+
Andy Schultz	18	Computer Science	550.420	INTRODUCTION TO PROBABILITY	B
Lisa Apap	18	Computer Science	550.420	INTRODUCTION TO PROBABILITY	A
Eric Tai	19	Computer Science	550.413	APPLIED STATISTICS AND DATA ANALYSIS	B+
Eric Tai	19	Computer Science	550.471	COMBINATORIAL ANALYSIS	C
Eric Tai	19	Computer Science	550.620	PROBABILITY THEORY I	A-
Eric Tai	19	Computer Science	550.626	STOCHASTIC PROCESSES II	B
Eric Tai	19	Computer Science	550.671	COMBINATORIAL ANALYSIS	C
Eric Tai	19	Computer Science	550.681	NUMERICAL ANALYSIS	A
Eric Tai	19	Computer Science	550.661	FOUNDATIONS OF OPTIMIZATION	B-
Eric Tai	19	Computer Science	550.631	STATISTICAL INFERENCE	A-
Derek Lee	17	Computer Science	550.413	APPLIED STATISTICS AND DATA ANALYSIS	C+
Derek Lee	17	Computer Science	550.420	INTRODUCTION TO PROBABILITY	A
Derek Lee	17	Computer Science	550.471	COMBINATORIAL ANALYSIS	A
David Adams	22	Computer Science	520.213	CIRCUITS	B
David Adams	22	Computer Science	550.420	INTRODUCTION TO PROBABILITY	B
Susan Lee	16	Computer Science	550.420	INTRODUCTION TO PROBABILITY	A
Mark Schwartz	17	Computer Science	550.420	INTRODUCTION TO PROBABILITY	A-
Bruce Wilson	27	Computer Science	550.681	NUMERICAL ANALYSIS	B
Michael Leighton	20	Computer Science	520.213	CIRCUITS	A-
Michael Woods	17	Chemical Engineering	550.420	INTRODUCTION TO PROBABILITY	B
Michael Woods	17	Chemical Engineering	550.420	INTRODUCTION TO PROBABILITY	B+
Stacy Prater	18	Chemical	550.413	APPLIED STATISTICS AND DATA ANALYSIS	C

		Engineering			
Stacy Prater	18	Chemical Engineering	550.471	COMBINATORIAL ANALYSIS	A-
Stacy Prater	18	Chemical Engineering	550.620	PROBABILITY THEORY I	A
Stacy Prater	18	Chemical Engineering	550.626	STOCHASTIC PROCESSES II	B
Stacy Prater	18	Chemical Engineering	550.671	COMBINATORIAL ANALYSIS	B
Stacy Prater	18	Chemical Engineering	550.681	NUMERICAL ANALYSIS	B
Mark Goldman	18	ECE	520.213	CIRCUITS	A
Mark Goldman	18	ECE	550.413	APPLIED STATISTICS AND DATA ANALYSIS	A
Mark Goldman	18	ECE	550.420	INTRODUCTION TO PROBABILITY	C
Mark Goldman	18	ECE	550.471	COMBINATORIAL ANALYSIS	B
Eric Rugh	20	Mathematical Sciences	550.420	INTRODUCTION TO PROBABILITY	B+
Jun Han	17	History	550.413	APPLIED STATISTICS AND DATA ANALYSIS	C-
Jun Han	17	History	550.471	COMBINATORIAL ANALYSIS	A
Jun Han	17	History	550.620	PROBABILITY THEORY I	B-
Jun Han	17	History	550.671	COMBINATORIAL ANALYSIS	A-
Lisa Cheng	21	Mathematical Sciences	550.310	PROBABILITY AND STATISTICS	B-
Lisa Cheng	21	Mathematical Sciences	550.413	APPLIED STATISTICS AND DATA ANALYSIS	B-
Lisa Cheng	21	Mathematical Sciences	550.420	INTRODUCTION TO PROBABILITY	B
Lisa Cheng	21	Mathematical Sciences	550.471	COMBINATORIAL ANALYSIS	B+
Sarah Smith	20	Mathematical Sciences	520.213	CIRCUITS	B+
Eric Brown	20	Mathematical Sciences	550.420	INTRODUCTION TO PROBABILITY	A-
Eric Brown	20	Mathematical Sciences	550.420	INTRODUCTION TO PROBABILITY	D-
David Adams	22	Computer Science	520.345	ECE LABORATORY	B
David Adams	22	Computer Science	520.349	MICROPROCESSOR LAB I	A
David Adams	22	Computer Science	520.353	CONTROL SYSTEMS	A-
Mark Goldman	18	ECE	520.345	ECE LABORATORY	A+
Eric Pang	19	ECE	520.349	MICROPROCESSOR LAB I	A
Eric Pang	19	ECE	520.353	CONTROL SYSTEMS	A
Lisa Cheng	21	Mathematical Sciences	520.345	ECE LABORATORY	B
Sarah Smith	20	Mathematical Sciences	520.349	MICROPROCESSOR LAB I	B

Sarah Smith	20	Mathematical Sciences	520.353	CONTROL SYSTEMS	C
Steven Davis	20	Computer Science	050.109	MIND, BRAIN, COMPUTERS	B-
Steven Davis	20	Computer Science	050.203	COGNITIVE NEUROSCIENCE	B-
Steven Davis	20	Computer Science	050.325	SOUND STRUCTURES IN NATURAL LANGUAGE	A-
Mark Schwartz	17	Computer Science	050.109	MIND, BRAIN, COMPUTERS	B-
Mark Schwartz	17	Computer Science	050.203	COGNITIVE NEUROSCIENCE	D-
Mark Schwartz	17	Computer Science	050.325	SOUND STRUCTURES IN NATURAL LANGUAGE	A
Mark Schwartz	17	Computer Science	050.821	COMP. MODELS OF SENTENCE PROCESSING	A
Bruce Wilson	27	Computer Science	050.427	THE HISTORY OF ROMANCE LANGUAGES	B
Bruce Wilson	27	Computer Science	050.670	FORMAL METHODS IN COGNITIVE SCIENCE	B
Bruce Wilson	27	Computer Science	050.802	RESEARCH SEMINAR IN COGNITIVE PROCESSES	C
Eric Epp	18	Cognitive Science	050.109	MIND, BRAIN, COMPUTERS	B+
Eric Epp	18	Cognitive Science	050.203	COGNITIVE NEUROSCIENCE	B
Eric Epp	18	Cognitive Science	050.325	SOUND STRUCTURES IN NATURAL LANGUAGE	B

21:17:39 SUCCESS [SELECT - 26 rows, 0.092 secs] Result set fetched
/*Query 70*/
SELECT CONCAT(S.fname,' ',S.lname) AS StuName, S.age AS Sex, D.dname AS Major, COUNT(E.cid) AS TotalNum
FROM Enrolled_in E, Course C, Department D, Student S
WHERE S.stuid = E.stuid AND C.dno = D.dno AND E.cid = C.cid AND D.dname = 'Computer Science'
GROUP BY E.stuid
HAVING COUNT(E.cid) >= 2;

StuName	Sex	Major	TotalNum
Linda Smith	18	Computer Science	6
Tracy Kim	19	Computer Science	5
Shiela Jones	21	Computer Science	5
Dinesh Kumar	20	Computer Science	7
Paul Gompers	26	Computer Science	5
Andy Schultz	18	Computer Science	5
Lisa Apap	18	Computer Science	5
Jandy Nelson	20	Computer Science	5
Steven Davis	20	Computer Science	2
Charles Norris	18	Computer Science	7
Susan Lee	16	Computer Science	4
Mark Schwartz	17	Computer Science	2
Bruce Wilson	27	Computer Science	3
Michael Leighton	20	Computer Science	5

Arthur Pang	18	Computer Science	5
Ian Thornton	22	Computer Science	5
George Andreou	19	Computer Science	9
Michael Woods	17	Computer Science	7
David Shieber	20	Computer Science	8
Eric Pang	19	Computer Science	4
Paul Brody	18	Computer Science	7
Eric Rugh	20	Computer Science	5
Jun Han	17	Computer Science	2
Eric Brown	20	Computer Science	3
William Simms	18	Computer Science	5
Eric Epp	18	Computer Science	2

21:17:39 SUCCESS [SELECT - 1 rows, 0.083 secs] Result set fetched
/*Query 71*/
/* List the Student ID, sex, Student name, and city name he/she lives in, for all the students who have worked at McDonald's after 2019 and spent the most of the time(hours per week) on Football. */
SELECT DISTINCT S.stuid AS StuID, CONCAT(S.fname,' ', S.lname) AS StuName, S.sex AS Sex, C.city_name AS City
FROM Student S, City C, Worked_at W
WHERE S.city_code = C.city_code AND S.stuid = W.stuid AND W.company = 'Microsoft'
AND W.start_date > '2019-01-01' AND S.stuid = (
SELECT stuid
FROM(
SELECT S.stuid, S.hoursperweek
FROM SportsInfo S
WHERE S.sportname = 'Football'
GROUP BY S.stuid) A
WHERE hoursperweek IN (SELECT MAX(hoursperweek) FROM (SELECT S.stuid, S.hoursperweek
FROM SportsInfo S
WHERE S.sportname = 'Football'
GROUP BY S.stuid) B));

StuID	StuName	Sex	City
1003	Shiela Jones	F	Washington

21:17:39 END Execution 52 statement(s) executed, 609 row(s) affected, exec/fetch time: 30.855/1.010 secs [52 successful, 0 errors]

QBE 3

```
 _____
RESULT    |            |            |              |            |    (use only if needed)
_____|_____|_____|_____|_____|
          |            |            |              |            |
          |            |            |              |            |
          |            |            |              |            |
          |            |            |              |            |

 _____
STUDENT   | StuID  |    Lname   |    Fname   | Age | Sex | Major | Advisor | City_Code |
_____|_____|_____|_____|_____|_____|_____|_____|_____|
          | P. _x  | P.         | P.         |     |     | P.    | _y      |           |
          |        |            |            |     |     |       |         |           |
          |        |            |            |     |     |       |         |           |

 _____
COURSE    | CID   |    CName   |Credits| Instructor | Days  | Hours | DNO   |
_____|_____|_____|_____|_____|_____|_____|_____|
          | _z    |            |       |    _y      |       |       |       |
          |       |            |       |            |       |       |       |
          |       |            |       |            |       |       |       |

 _____
ENROLLED_IN | StuID  | CID    | Grade  |
_____|_____|_____|_____|
            | _x     | _z     |        |
            |        |        |        |
            |        |        |        |

 _____
FACULTY   | FacID  | Lname    | Fname    | Rank | Sex | Phone | Room | Building |
_____|_____|_____|_____|_____|_____|_____|_____|_____|
          | _y     | ¬ Jason  | ¬ Eisner |      |     |       |      |          |
          |        |          |          |      |     |       |      |          |
          |        |          |          |      |     |       |      |          |
```

QBE 18

```
_____
RESULT     |            |           |             |            |   (use only if needed)
-----------|-----------|-----------|-------------|------------|
           |           |           |             |            |
           |           |           |             |            |
```

```
_____
STUDENT    | StuID |   Lname   |   Fname   | Age | Sex | Major | Advisor | City_Code |
-----------|-------|-----------|-----------|-----|-----|-------|---------|-----------|
           |  _y   |    P.     |    P.     |     |     |  _t   |         |    _x     |
           |       |           |           |     |     |       |         |           |
           |       |           |           |     |     |       |         |           |
```

```
_____
DEPARMENT  | DNO  |Division|   DName          | Room  | Building | DPhone |
-----------|------|--------|------------------|-------|----------|--------|
           | _t   |        | Computer Science |       |          |        |
           |      |        |                  |       |          |        |
           |      |        |                  |       |          |        |
```

```
_____
DORM    | DormID | Dorm_name | Student_capacity | Gender |
--------|--------|-----------|------------------|--------|
        |  _z    |  Wolman   |                  |        |
        |        |           |                  |        |
```

```
_____
LIVES_IN |  StuID | DormID | Room_number |
---------|--------|--------|-------------|
         |  _y    |  _z    |             |
         |        |        |             |
         |        |        |             |
```

```
_____
CITY  | City_code | City_name | State | Country | Latitude | Longitude |
------|-----------|-----------|-------|---------|----------|-----------|
      |   _x      | New York  |       |         |          |           |
```

```
_____
HAS_ALLERGY|  StuID   | AllergyName   |
-----------|----------|---------------|
           |   _y     | Peanut Butter |
           |          |               |
```

QBE 19

```
_____
RESULT    |             |            |             |           |   (use only if needed)
——————————|—————————————|————————————|—————————————|———————————|
          |             |            |             |           |
          |             |            |             |           |
          |             |            |             |           |
          |             |            |             |           |
```

```
_____
STUDENT   | StuID |   Lname    |   Fname   | Age | Sex | Major | Advisor | City_Code |
——————————|———————|————————————|———————————|—————|—————|———————|—————————|———————————|
          |  _x   |  P.        |   P.      |     |     |       |         |           |
          |  _y   |            |           |     |  F  |       |         |           |
          |       |            |           |     |     |       |         |           |
```

```
_____
LOVES     | WhoLoves   | WhoIsLoved  |
——————————|————————————|—————————————|
          |  ¬ _y      |    _x       |
          |            |             |
```

```
_____
LIKES     | WhoLikes   | WhoIsLiked  |
——————————|————————————|—————————————|
          |   _y       |    _x       |
          |            |             |
```

QBE 40

```
----------------------------------------------------------------
RESULT     |   FName1   |    LName1   |   FName1     |   LName2   |   (use only if needed)
-----------|------------|-------------|--------------|------------|
           |    P._x    |    P._a     |    P._x      |    P._b    |
           |            |             |              |            |
           |            |             |              |            |
           |            |             |              |            |
```

```
----------------------------------------------------------------------------
STUDENT    | StuID  |   Lname   |   Fname   | Age | Sex | Major | Advisor | City_Code |
-----------|--------|-----------|-----------|-----|-----|-------|---------|-----------|
           |   _y   |   P._a    |   P._x    |     |     |       |         |           |
           |   _z   |   P._b    |   P._x    |     |     |       |         |           |
           |        |           |           |     |     |       |         |           |
```

```
---------------------------------------------
ENROLLED_IN | StuID  |  CID   | Grade |
------------|--------|--------|-------|
            |   _y   |   _w   |       |
            |   _z   |   _w   |       |
            |        |        |       |
```

QBE 54

```
_____
RESULT    |    FName    |    LName   |   CityName   |           |   (use only if needed)
_____|_____|_____|_____|_____|
          |    P._a     |    P._b    |     P._c     |           |
          |             |            |              |           |
          |             |            |              |           |
          |             |            |              |           |
```

```
_____
STUDENT   | StuID |    Lname   |    Fname   | Age | Sex | Major | Advisor | City_Code |
_____|_____|_____|_____|_____|_____|_____|_____|_____|
          |  _x   |    P._b    |    P._a    |     |     |       |         |    _y     |
          |       |            |            |     |     |       |         |           |
          |       |            |            |     |     |       |         |           |
```

```
_____
LIVES_IN |       StuID        | DormID |  Room_number  |
_____|_____|_____|_____|
         | MAX.(COUNT(._x))   |  G._z  |               |
         |                    |        |               |
         |                    |        |               |
```

```
_____
CITY |  City_code  |  City_name  | State |  Country  | Latitude |  Longitude  |
_____|_____|_____|_____|_____|_____|_____|
     |     _y      |    P._c     |       |           |          |             |
```

QBE 60

```
_____
RESULT     |            |            |            |            |          (use only if needed)
_____|_____|_____|_____|_____|
           |            |            |            |            |
           |            |            |            |            |
           |            |            |            |            |
           |            |            |            |            |

_____
STUDENT    | StuID |   Lname    |   Fname    | Age | Sex | Major | Advisor | City_Code |
_____|_____|_____|_____|_____|_____|_____|_____|_____|
           | _x    |    P.      |    P.      | P.  |     |       |         |           |
           |       |            |            |     |     |       |         |           |
           |       |            |            |     |     |       |         |           |

_____
CLOSE_CONTACT |   StuID1   |   StuID2   | DateOfContact |  MinDuration  |
_____|_____|_____|_____/_____/
      ¬       |    _x      |    _y      |               |               |


_____
LIKES      | WhoLikes   | WhoIsLiked |
_____|_____|_____|
           |    _x      |    _y      |
           |            |            |
```

QBE 71

RESULT	StuID	FName	LName	Sex	CityName
	P._x	P._a	P._b	P._c	P._d

STUDENT	StuID	Lname	Fname	Age	Sex	Major	Advisor	City_Code
	P._x	P._b	P._a		P._c			_y

CITY	City_code	City_name	State	Country	Latitude	Longitude
	_y	P._d				

SPORTSINFO	StuID	SportName	HoursPerWeek	GamesPlayed	OnScholarship
	_x	Football	_z		
			_w		

CONDITIONS
_z > All._w

WORKED_AT	StuID	Company	Position	Start_Date	End_Date
	_x	Microsoft		_t > '2019-01-01'	

QBE 41

```
_____
RESULT     |           |           |            |           |     (use only if needed)
-----------|-----------|-----------|------------|-----------|
           |           |           |            |           |
           |           |           |            |           |
           |           |           |            |           |
           |           |           |            |           |

_____
STUDENT    | StuID  |   Lname   |   Fname   | Age | Sex | Major | Advisor | City_Code |
-----------|--------|-----------|-----------|-----|-----|-------|---------|-----------|
           |  _x    |    P.     |    P.     |     |     |  _y   |         |           |
           |        |           |           |     |     |       |         |           |
           |        |           |           |     |     |       |         |           |

_____
DEPARMENT  | DNO   |Division|     DName         | Room  | Building | DPhone |
-----------|-------|--------|-------------------|-------|----------|--------|
           |  _y   |        | Computer Science  |       |          |        |
           |       |        |                   |       |          |        |
           |       |        |                   |       |          |        |

_____
PREFERENCES|  StuID    | SleepHabits | MusicType | Smoking |
-----------|-----------|-------------|-----------|---------|
           |   _x      |             |           |   Yes   |
           |           |             |           |         |
           |           |             |           |         |

_____
LIKES      | WhoLikes  | WhoIsLiked  |
-----------|-----------|-------------|
     ¬     |    _x     |             |
           |           |             |
```