

GLA UNIVERSITY , MATHURA



Name : **ISHU AGRAWAL**

Section : **CA**

Roll No. : **24**

University Roll No. : **2315510088**

Course : **BTECH. CS (AIML & IOT)**

Subject : **DATABASE MANAGEMENT SYSTEM LAB**

Subject Code : **CSE3083**

Assignment : **01**

Faculty : **MR. SURENDRA KUMAR**

STRUCTURES

College

| Column Name | Data type | Size |
|-------------|-----------|------|
| cName | varchar2 | 10 |
| state | varchar2 | 10 |
| enrollment | int | |

Student

| Column Name | Data type | Size |
|-------------|-----------|------|
| sID | int | |
| sName | varchar2 | 10 |
| GPA | number | 2,1 |
| sizeHS | int | |
| DoB | date | |

Apply

| Column Name | Data type | Size |
|-------------|-----------|------|
| sID | int | |
| cName | varchar2 | 10 |
| major | varchar2 | 20 |
| decision | char | 1 |

TABLES

Student

| sID | sName | GPA | sizeHS | DoB |
|-----|--------|-----|--------|-----------|
| 123 | Amy | 3.9 | 1000 | 26-JUN-96 |
| 234 | Bob | 3.6 | 1500 | 7-Apr-95 |
| 345 | Craig | 3.5 | 500 | 4-Feb-95 |
| 456 | Doris | 3.9 | 1000 | 24-Jul-97 |
| 567 | Edward | 2.9 | 2000 | 21-Dec-96 |
| 678 | Fay | 3.8 | 200 | 27-Aug-96 |
| 789 | Gary | 3.4 | 800 | 8-Oct-96 |
| 987 | Helen | 3.7 | 800 | 27-Mar-97 |
| 876 | Irene | 3.9 | 400 | 7-Mar-96 |
| 765 | Jay | 2.9 | 1500 | 8-Aug-98 |
| 654 | Amy | 3.9 | 1000 | 26-May-96 |
| 543 | Craig | 3.4 | 2000 | 27-Aug-98 |

Apply

| sID | cName | major | decision |
|-----|----------|----------------|----------|
| 123 | Stanford | CS | Y |
| 123 | Stanford | EE | N |
| 123 | Berkeley | CS | Y |
| 123 | Cornell | EE | Y |
| 234 | Berkeley | biology | N |
| 345 | MIT | bioengineering | Y |
| 345 | Cornell | bioengineering | N |
| 345 | Cornell | CS | Y |
| 345 | Cornell | EE | N |
| 678 | Stanford | history | Y |
| 987 | Stanford | CS | Y |
| 987 | Berkeley | CS | Y |
| 876 | Stanford | CS | N |
| 876 | MIT | biology | Y |
| 876 | MIT | marine biology | N |
| 765 | Stanford | history | Y |
| 765 | Cornell | history | N |
| 765 | Cornell | psychology | Y |
| 543 | MIT | CS | N |

College

| cName | state | enrollment |
|----------|-------|------------|
| Stanford | CA | 15000 |
| Berkeley | CA | 36000 |
| MIT | MA | 10000 |
| Cornell | NY | 21000 |
| Harvard | MA | 50040 |

1. List the student name, dob from student table.

Ans. *Select* sName, dob *from* student ;

| SNAME | DOB |
|--------|-----------|
| Amy | 26-JUN-96 |
| Bob | 07-APR-95 |
| Craig | 04-FEB-95 |
| Doris | 24-JUL-97 |
| Edward | 21-DEC-96 |
| Fay | 27-AUG-96 |
| Gary | 08-OCT-96 |
| Helen | 27-MAR-97 |
| Irene | 07-MAR-96 |
| Jay | 08-AUG-98 |
| Amy | 26-MAY-96 |
| Craig | 27-AUG-98 |

2. List the name of student scoring more than 3.7 in GPA.

Ans. *Select* sName *from* student *where* GPA > 3.7 ;

| SNAME |
|-------|
| Amy |
| Doris |
| Fay |
| Irene |
| Amy |

3. List the name of student whose High School size is atleast 1000 and born after 1996.

Ans. `select sname from student where sizehs >= 1000 and to_date (dob, 'dd-mon-yy') > to_date('31-dec-96', 'dd-mon-yy') ;`

| SNAME |
|-------|
| Doris |
| Jay |
| Craig |

4. List the name of student who are scoring GPA in between 2.9 and 3.9.

Ans. `select sname from student where gpa between 2.9 and 3.9 ;`

| SNAME |
|--------|
| Amy |
| Bob |
| Craig |
| Doris |
| Edward |
| Fay |
| Gary |
| Helen |
| Irene |
| Jay |
| Amy |
| Craig |

5. List all the details of colleges who situated in MA.

Ans. `Select * from college where state = ' MA ' ;`

| CNAME | STATE | ENROLLMENT |
|---------|-------|------------|
| MIT | MA | 10000 |
| Harvard | MA | 50040 |

6. List the students who are scored more than 2.0 but less than 3.5.

Ans. `select sname from student where gpa > 2.0 and gpa < 3.5 ;`

| SNAME |
|--------|
| Edward |
| Gary |
| Jay |
| Craig |

7. List the students who have born after 1st Jul 96 in the order of the Date of Birth.

Ans. `select sname from student where dob >to_date(dob,'dd-mon-yy') > to_date('01-jul-96','dd-mon-yy') order by to_date(dob,'dd-mon-yy') ;`

| SNAME |
|--------|
| Fay |
| Gary |
| Edward |
| Helen |
| Doris |
| Jay |
| Craig |

8. List the sID, cName, decision of applications that are accepted.

Ans. `select sid, cname, decision from apply where decision = 'y' ;`

| SID | CNAME | DECISION |
|-----|----------|----------|
| 123 | Stanford | Y |
| 123 | Berkeley | Y |
| 123 | Cornell | Y |
| 345 | MIT | Y |
| 345 | Cornell | Y |
| 678 | Stanford | Y |
| 987 | Stanford | Y |
| 987 | Berkeley | Y |
| 876 | MIT | Y |
| 765 | Stanford | Y |
| 765 | Cornell | Y |

9. List the sID, cName of applications which are filled at Stanford.

Ans. `select sid, cname from apply where cname='standford' ;`

| SID | CNAME |
|-----|----------|
| 123 | Stanford |
| 123 | Stanford |
| 678 | Stanford |
| 987 | Stanford |
| 876 | Stanford |
| 765 | Stanford |

10. List the colleges that that has enrollment greater than 10001.

Ans. `select cName from college where enrollment > 10001 ;`

| CNAME |
|----------|
| Stanford |
| Berkeley |
| Cornell |
| Harvard |

11. List the colleges not in California.

Ans. `select cName from college where state != ' CA ' ;`

| CNAME |
|---------|
| MIT |
| Cornell |
| Harvard |

12. List names of all student who came from high school having size greater than 1700 and scored GPA less than 3.8.

Ans. `select sname from student where sizehs > 1700 and gpa < 3.8 ;`

| SNAME |
|--------|
| Edward |
| Craig |

13. Display the description of the Student table.

Ans. desc student ;

| Column | Null? | Type |
|--------|-------|--------------|
| SID | - | NUMBER |
| SNAME | - | VARCHAR2(20) |
| GPA | - | FLOAT(126) |
| SIZEHS | - | NUMBER |
| DOB | - | DATE |

14. Display the details of all students.

Ans. select * from student ;

| SID | SNAME | GPA | SIZEHS | DOB |
|-----|--------|-----|--------|-----------|
| 123 | Amy | 3.9 | 1000 | 26-JUN-96 |
| 234 | Bob | 3.6 | 1500 | 07-APR-95 |
| 345 | Craig | 3.5 | 500 | 04-FEB-95 |
| 456 | Doris | 3.9 | 1000 | 24-JUL-97 |
| 567 | Edward | 2.9 | 2000 | 21-DEC-96 |
| 678 | Fay | 3.8 | 200 | 27-AUG-96 |
| 789 | Gary | 3.4 | 800 | 08-OCT-96 |
| 987 | Helen | 3.7 | 800 | 27-MAR-97 |
| 876 | Irene | 3.9 | 400 | 07-MAR-96 |
| 765 | Jay | 2.9 | 1500 | 08-AUG-98 |
| 654 | Amy | 3.9 | 1000 | 26-MAY-96 |
| 543 | Craig | 3.4 | 2000 | 27-AUG-98 |

15. Display unique majors.

Ans. `select distinct major from apply;`

| MAJOR |
|----------------|
| marine biology |
| psychology |
| EE |
| biology |
| history |
| bioengineering |
| CS |

16. List the student names those are having three characters in their Names.

Ans. `select sname from student where sname like '___';`

| SNAME |
|-------|
| Amy |
| Bob |
| Fay |
| Jay |
| Amy |

17. List the student names those are starting with 'H' and with five characters.

Ans. `Select sname from student where sname like 'H_____';`

| SNAME |
|-------|
| Helen |

18. List the student names those are having third character and fifth character must be 'e' .

Ans. `select sname from student where sname like '__e_e' ;`

| SNAME |
|-------|
| Irene |

19. List the student names ending with 'y' .

Ans. `select sname from student where sname like '%oy' ;`

| SNAME |
|-------|
| Amy |
| Fay |
| Gary |
| Jay |
| Amy |

20. List the Students in the order of their GPA.

Ans. `select sname from student order by gpa ;`

| SNAME |
|--------|
| Jay |
| Edward |
| Craig |
| Gary |
| Craig |
| Bob |
| Helen |
| Fay |
| Irene |
| Amy |
| Amy |
| Doris |

21. List the details of the students in order of the ascending of GPA and descending of DoB.

Ans. `select * from student order by gpa asc , dob desc ;`

| SID | SNAME | GPA | SIZEHS | DOB |
|-----|--------|-----|--------|-----------|
| 765 | Jay | 2.9 | 1500 | 08-AUG-98 |
| 567 | Edward | 2.9 | 2000 | 21-DEC-96 |
| 543 | Craig | 3.4 | 2000 | 27-AUG-98 |
| 789 | Gary | 3.4 | 800 | 08-OCT-96 |
| 345 | Craig | 3.5 | 500 | 04-FEB-95 |
| 234 | Bob | 3.6 | 1500 | 07-APR-95 |
| 987 | Helen | 3.7 | 800 | 27-MAR-97 |
| 678 | Fay | 3.8 | 200 | 27-AUG-96 |
| 456 | Doris | 3.9 | 1000 | 24-JUL-97 |
| 123 | Amy | 3.9 | 1000 | 26-JUN-96 |
| 654 | Amy | 3.9 | 1000 | 26-MAY-96 |
| 876 | Irene | 3.9 | 400 | 07-MAR-96 |

22. List the sIDs of student who apply in either 'Stanford' , 'Cornell' or 'MIT' college.

Ans. `select sid from apply where cname = 'stanford' or cname = 'cornell' or cname = 'MIT' ;`

| SID |
|-----|
| 123 |
| 123 |
| 123 |
| 345 |
| 345 |
| 345 |
| 345 |
| 678 |
| 987 |
| 876 |
| 876 |
| 876 |
| 765 |
| 765 |
| 765 |
| 543 |

23. Delete all applications filled at Stanford.

Ans. `delete from apply where cname = 'stanford' ;`

| SID | CNAME | MAJOR | DECISION |
|-----|----------|----------------|----------|
| 123 | Berkeley | CS | Y |
| 123 | Cornell | EE | Y |
| 234 | Berkeley | biology | N |
| 345 | MIT | bioengineering | Y |
| 345 | Cornell | bioengineering | N |
| 345 | Cornell | CS | Y |
| 345 | Cornell | EE | N |
| 987 | Berkeley | CS | Y |
| 876 | MIT | biology | Y |
| 876 | MIT | marine biology | N |
| 765 | Cornell | history | N |
| 765 | Cornell | psychology | Y |
| 543 | MIT | CS | N |

24. Delete the college Stanford from college table.

Ans. `delete from college where cname = 'stanford' ;`

| CNAME | STATE | ENROLLMENT |
|----------|-------|------------|
| Berkeley | CA | 36000 |
| MIT | MA | 10000 |
| Cornell | NY | 21000 |
| Harvard | MA | 50040 |

25. Modify the GPA of all students by giving 10% raise in their GPA.

Ans. `update student set gpa = gpa + gpa*0.1 ;`

| SID | SNAME | GPA | SIZEHS | DOB |
|-----|--------|------|--------|-----------|
| 123 | Amy | 4.29 | 1000 | 26-JUN-96 |
| 234 | Bob | 3.96 | 1500 | 07-APR-95 |
| 345 | Craig | 3.85 | 500 | 04-FEB-95 |
| 456 | Doris | 4.29 | 1000 | 24-JUL-97 |
| 567 | Edward | 3.19 | 2000 | 21-DEC-96 |
| 678 | Fay | 4.18 | 200 | 27-AUG-96 |
| 789 | Gary | 3.74 | 800 | 08-OCT-96 |
| 987 | Helen | 4.07 | 800 | 27-MAR-97 |
| 876 | Irene | 4.29 | 400 | 07-MAR-96 |
| 765 | Jay | 3.19 | 1500 | 08-AUG-98 |
| 654 | Amy | 4.29 | 1000 | 26-MAY-96 |
| 543 | Craig | 3.74 | 2000 | 27-AUG-98 |

26. Increment the GPA of the students by 1.5 whose GPA is less than 3.5 and belong to High School having size greater than 1500.

Ans. `update student set gpa = gpa + 1.5 where gpa < 3.5 and sizehs > 1500 ;`

| SID | SNAME | GPA | SIZEHS | DOB |
|-----|--------|------|--------|-----------|
| 123 | Amy | 4.29 | 1000 | 26-JUN-96 |
| 234 | Bob | 3.96 | 1500 | 07-APR-95 |
| 345 | Craig | 3.85 | 500 | 04-FEB-95 |
| 456 | Doris | 4.29 | 1000 | 24-JUL-97 |
| 567 | Edward | 4.69 | 2000 | 21-DEC-96 |
| 678 | Fay | 4.18 | 200 | 27-AUG-96 |
| 789 | Gary | 3.74 | 800 | 08-OCT-96 |
| 987 | Helen | 4.07 | 800 | 27-MAR-97 |
| 876 | Irene | 4.29 | 400 | 07-MAR-96 |
| 765 | Jay | 3.19 | 1500 | 08-AUG-98 |
| 654 | Amy | 4.29 | 1000 | 26-MAY-96 |
| 543 | Craig | 3.74 | 2000 | 27-AUG-98 |

27. Delete the students who have scored less than 3.2 GPA.

Ans. `delete from student where gpa < 3.2 ;`

| SID | SNAME | GPA | SIZEHS | DOB |
|-----|--------|------|--------|-----------|
| 123 | Amy | 4.29 | 1000 | 26-JUN-96 |
| 234 | Bob | 3.96 | 1500 | 07-APR-95 |
| 345 | Craig | 3.85 | 500 | 04-FEB-95 |
| 456 | Doris | 4.29 | 1000 | 24-JUL-97 |
| 567 | Edward | 4.69 | 2000 | 21-DEC-96 |
| 678 | Fay | 4.18 | 200 | 27-AUG-96 |
| 789 | Gary | 3.74 | 800 | 08-OCT-96 |
| 987 | Helen | 4.07 | 800 | 27-MAR-97 |
| 876 | Irene | 4.29 | 400 | 07-MAR-96 |
| 654 | Amy | 4.29 | 1000 | 26-MAY-96 |
| 543 | Craig | 3.74 | 2000 | 27-AUG-98 |