GLA UNIVERSITY , MATHURA

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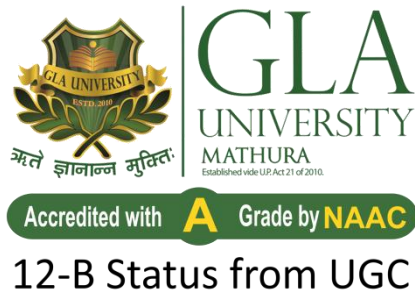12-B Status from UGC

Name : **ISHU AGRAWAL**

Section : **CA**

Roll No. : **24**

University Roll No. : **2315510088**

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

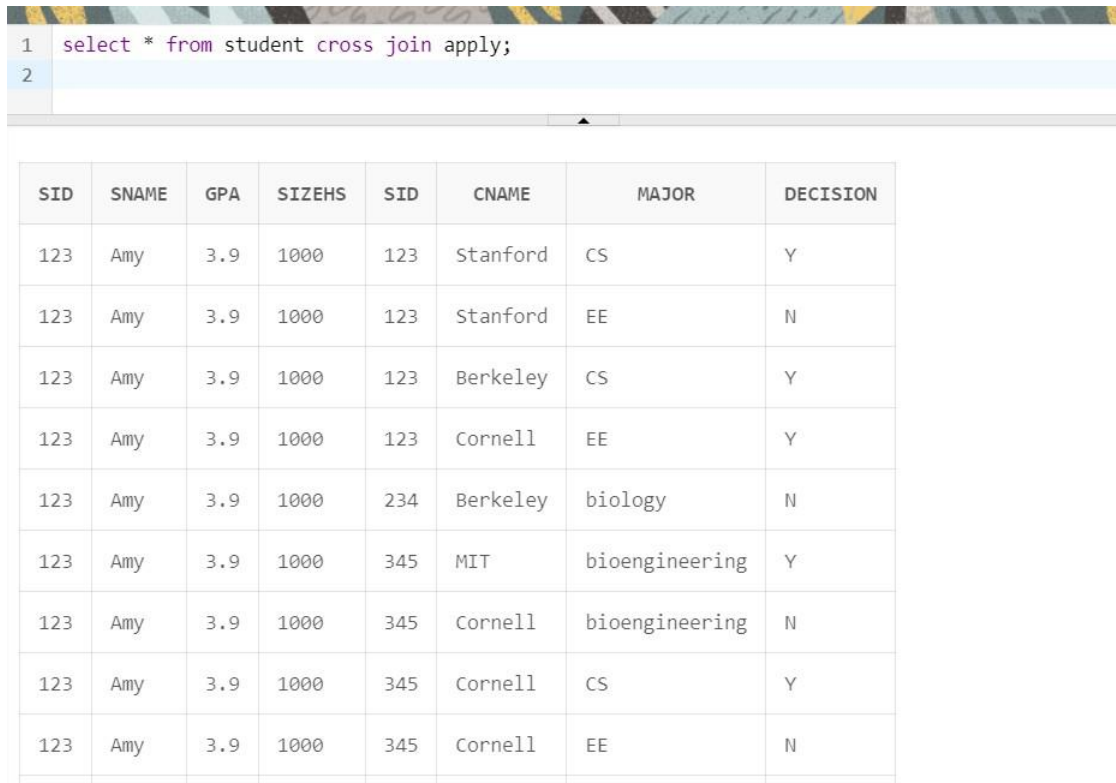Subject : **DATABASE MANAGEMENT SYSTEM LAB**

Subject Code : **BCSC 0762**

Assignment : **03**

Faculty : **MR. SURENDRA KUMAR**

Q1. Produce a combine table in which each student is combine with every other application.

Ans: select * from student cross join apply;

SID	SNAME	GPA	SIZEHS	SID	CNAME	MAJOR	DECISION
123	Amy	3.9	1000	123	Stanford	CS	Y
123	Amy	3.9	1000	123	Stanford	EE	N
123	Amy	3.9	1000	123	Berkeley	CS	Y
123	Amy	3.9	1000	123	Cornell	EE	Y
123	Amy	3.9	1000	234	Berkeley	biology	N
123	Amy	3.9	1000	345	MIT	bioengineering	Y
123	Amy	3.9	1000	345	Cornell	bioengineering	N
123	Amy	3.9	1000	345	Cornell	CS	Y
123	Amy	3.9	1000	345	Cornell	EE	N

Q2. Give Student ID, name, GPA and name of college and major each student applied to.

Ans: select s.sid, s.sname, s.GPA, a.cname, a.major from student s cross join apply a;

```
1  select s.sid, s.sname, s.GPA, a.cname, a.major from student s cross join apply a;
2  |
```

SID	SNAME	GPA	CNAME	MAJOR
123	Amy	3.9	Berkeley	CS
123	Amy	3.9	Stanford	CS
123	Amy	3.9	Cornell	EE
123	Amy	3.9	Stanford	EE
123	Amy	3.9	Berkeley	biology
123	Amy	3.9	Cornell	CS
123	Amy	3.9	Cornell	EE
123	Amy	3.9	Cornell	bioengineering
123	Amy	3.9	MIT	bioengineering

Q3. Find detail of applications who applied to California State.

Ans: select * from apply a join college c on a.cname=c.collegename where c.state='CA';

```
1    select * from apply a join college c on a.cname=c.collegename where c.state='CA';
```

SID	CNAME	MAJOR	DECISION	COLLEGENAME	STATE	ENROLLMENT
123	Stanford	CS	Y	Stanford	CA	15000
123	Stanford	EE	N	Stanford	CA	15000
123	Berkeley	CS	Y	Berkeley	CA	36000
234	Berkeley	biology	N	Berkeley	CA	36000
678	Stanford	history	Y	Stanford	CA	15000
987	Stanford	CS	Y	Stanford	CA	15000
987	Berkeley	CS	Y	Berkeley	CA	36000
876	Stanford	CS	N	Stanford	CA	15000
765	Stanford	history	Y	Stanford	CA	15000

Q4. IDs, name, GPA of students and name of college with GPA > 3.7 applying to Stanford

Ans: select s.sid, s.sname, s.GPA, a.cname from student s join apply a on s.sid=a.sid where s.GPA > 3.7 and a.cname='Stanford';

```
1 v  select s.sid, s.sname, s.GPA, a.cname from student s join apply a on s.sid=a.sid
2    where s.GPA > 3.7 and a.cname='Stanford';
3  |
```

SID	SNAME	GPA	CNAME
123	Amy	3.9	Stanford
123	Amy	3.9	Stanford
678	Fay	3.8	Stanford
876	Irene	3.9	Stanford

Q5. Find detail of Student who apply to CS major and their application are rejected

Ans: select * from student s left join apply a on s.sid = a.sid where a.major = 'CS'and a.decision = 'N';

```
1   select * from student s left join apply a on s.sid = a.sid
2   where a.major = 'CS' and a.decision = 'N';
```

SID	SNAME	GPA	SIZEHS	SID	CNAME	MAJOR	DECISION
876	Irene	3.9	400	876	Stanford	CS	N
543	Craig	3.4	2000	543	MIT	CS	N

Q6. Find detail of student and application who applied to colleges at New York

Ans: select * from student s join apply a on s.sid = a.sid join college c ona.cname = c.collegename where c.state = 'NY';

```
1   select * from student s join apply a on s.sid = a.sid join college c
2   on a.cname = c.collegename where c.state = 'NY';
```

SID	SNAME	GPA	SIZEHS	SID	CNAME	MAJOR	DECISION	COLLEGENAME	STATE
123	Amy	3.9	1000	123	Cornell	EE	Y	Cornell	NY
345	Craig	3.5	500	345	Cornell	bioengineering	N	Cornell	NY
345	Craig	3.5	500	345	Cornell	CS	Y	Cornell	NY
345	Craig	3.5	500	345	Cornell	EE	N	Cornell	NY
765	Jay	2.9	1500	765	Cornell	history	N	Cornell	NY
765	Jay	2.9	1500	765	Cornell	psychology	Y	Cornell	NY

Q7. Find detail of student who have not applied to any of college

Ans: select * from student where sid not in (select sid from apply);

```
1   select * from student where sid not in (select sid from apply);
```

SID	SNAME	GPA	SIZEHS
567	Edward	2.9	2000
654	Amy	3.9	1000
456	Doris	3.9	1000
789	Gary	3.4	800

Q8. Find college where no student have applied

Ans: select collegename from college where collegename not in (select cnamefrom apply);

```
1   select collegename from college where collegename not in (select cname from apply);
```

COLLEGENAME
Harvard

Q9. Find sID who have only one application

Ans: select sid from apply group by sid having count(sid)=1;

```
1    select sid from apply group by sid having count(sid)=1;
```

SID
234
543
678

Q10. Find name and GPA of applicants who apply to any college whose enrollment is not more than 25000.

Ans: select s.sname, s.GPA from student s join apply a on s.sid = a.sid join college c on c.collegename = a.cname and c.enrollment <= 25000;

```
1 v  select s.sname, s.GPA from student s join apply a on s.sid = a.sid
2    join college c on c.collegename = a.cname and c.enrollment <= 25000;
```

SNAME	GPA
Amy	3.9
Amy	3.9
Amy	3.9
Craig	3.5
Craig	3.5
Craig	3.5
Craig	3.5
Fay	3.8
Helen	3.7

Q11. Find pair of students (sID) having same GPA. (each pair should occur just once in result)

Ans: select s1.sid, s2.sid from student s1, student s2 where s1.sid < s2.sid and s1.GPA = s2.GPA;

```
1    select s1.sid, s2.sid from student s1, student s2 where s1.sid < s2.sid and s1.GPA = s2.GPA;
2
3
```

SID	SID
123	456
543	789
123	876
456	876
654	876
567	765
123	654
456	654

Q12. Find various majors student applied in at college in state MA.

Ans: select a.major from apply a join college c on c.collegename = a.cname and c.state = 'MA';

```
1    select a.major from apply a join college c on c.collegename = a.cname and c.state = 'MA';
```

MAJOR
bioengineering
CS
biology
marine biology