

AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Faculty of Science and Technology



Project Cover Page

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|-------------------|---|---------------------|---------------------------------------|
| Assignment Title: | School Management System Database project | | |
| Assignment No: | 01 | Date of Submission: | 26 December 2022 |
| Course Title: | INTRODUCTION TO DATABASE | | |
| Course Code: | CSC 2108 | Section: | N |
| Semester: | Fall | 2022-23 | Course Teacher: RIFAT IBN ALAM |

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| No | Name | ID | Program | Signature |
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| 2 | MD IBRAHIM HOSSEN HRIDOV | 22-46407-1 | BSc [CSE] | |
| 3 | MD. MINHAJUL ISLAM SHIHAB | 22-46389-1 | BSc [CSE] | |
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| 5 | | | Choose an item. | |
| 6 | | | Choose an item. | |
| 7 | | | Choose an item. | |
| 8 | | | Choose an item. | |
| 9 | | | Choose an item. | |
| 10 | | | Choose an item. | |

Faculty use only

| | | |
|------------------|----------------|--|
| FACULTY COMMENTS | Marks Obtained | |
| | | |
| | Total Marks | |
| | | |

School Management System

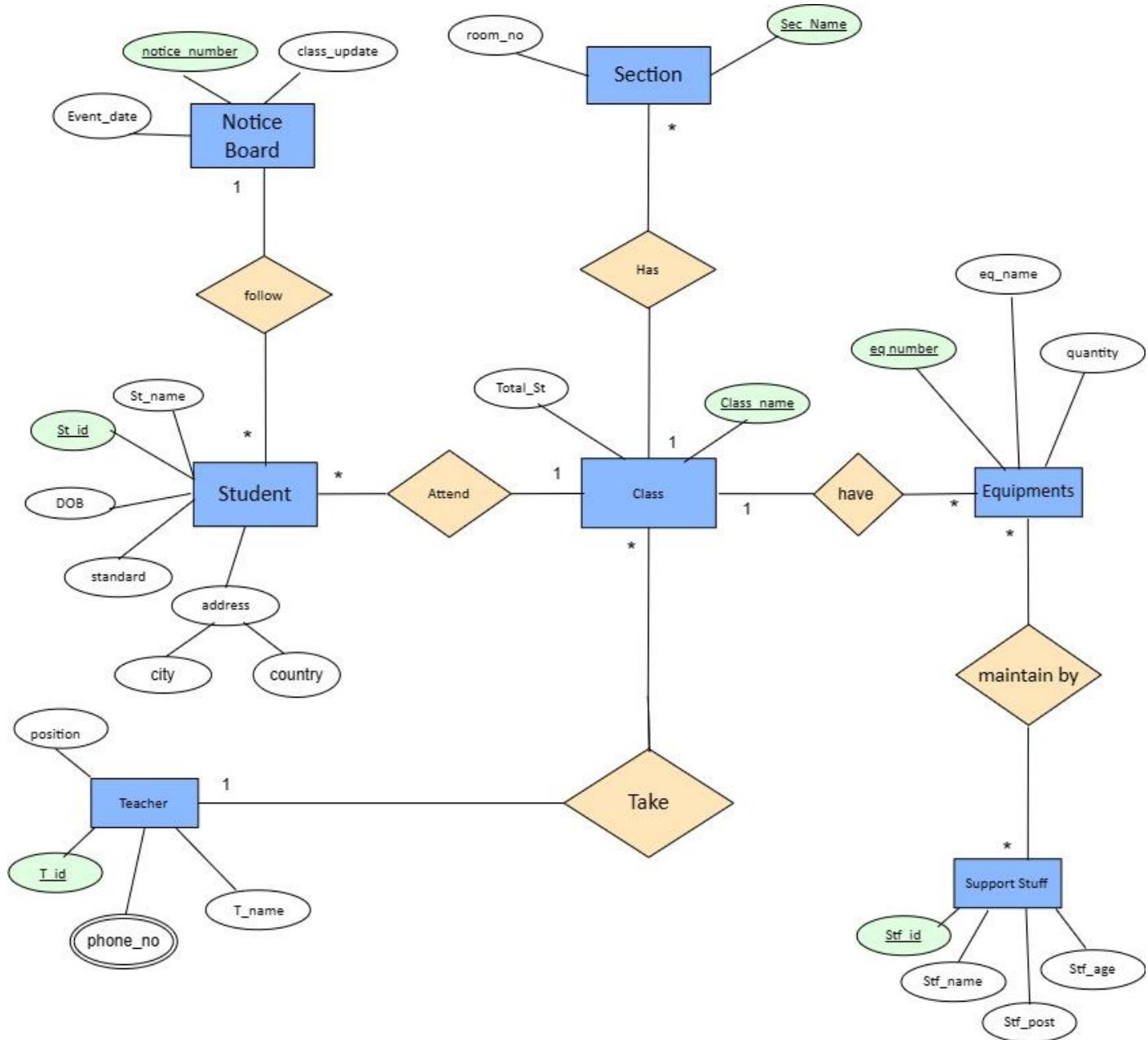
Group members:

| ID | Name | Contribution |
|------------|-------------------------------|--------------|
| 22-46410-1 | MD ABDULLAH SHISHIR | 25% |
| 22-46407-1 | MD IBRAHIM HOSSEN HRIDOV | 25% |
| 22-46389-1 | MD. MINHAJUL ISLAM SHIHAB | 25% |
| 22-47012-1 | A.K.M ASHIQUR RAHAMAN SHAIKAT | 25% |

Scenario:

School Management – This class contains the overall details of the school. Classroom where classes are held. Student attends classes. There are two types of employees in a school. Teacher and Support Staff. Teacher who takes class. There are two types of teachers, Lecturer and Professors. Teachers have their id, name, position etc. A teacher can take multiple class, but a class have only one Teacher. In classroom there are much equipment. Support Staff arranges all teaching equipment classroom. There is Noticeboard in school which is followed by student, it contains the details of the notice and information like class update, event date, exam result etc.

ER Diagram :



Entities:

| Student | | Teacher | | Class | | Equipments | | Support Stuff | | noticeboard | |
|---------|----------|---------|------------|-------|------------|------------|-----------|---------------|----------|-------------|---------------|
| PK | St_id | PK | T_id | PK | Class_name | PK | eq_number | PK | Stf_id | PK | notice_number |
| | St_name | | first name | | Total_st | | eq name | | Stf_name | | class_update |
| | DOB | | last name | | | | quantity | | Stf_age | | event_date |
| | standard | | position | | | | | | Stf_post | | |
| | city | | phone no | | | | | | | | |
| | country | | | | | | | | | | |

Normalization:

Attend:

UNF: St_id, St_name, DOB, Standard, city, country, Class_name, Total_st

1NF: St_id, St_name, DOB, Standard, city, country, Class_name, Total_st

2NF: 1st: St_id, St_name, DOB, Standard, city, country

2nd: Class_name, Total_St

3rd: St_id, Class_name

3NF: There no transitive dependency

1st: St_id, St_name, DOB, Standard, city

2nd: city, country

3rd: Class_name, Total_St

4th: St_id, Class_name

Has :

UNF: Class_name, Total_st, Sec_name, room no

1NF: Class_name, Total_st, Sec_name, room no

2NF: 1st: Class_name, Total_st

2nd: Sec_name, room no

3rd: Class_name, Sec_name

3NF: There no transitive dependency

1st: Class_name, Total_st

2nd: Sec_name, room no

3rd: Class_name, Sec_name

Take :

UNF: T_id, T_name, position, phone_no, Class_name, Total_st

1NF: T_id, T_name, position, phone_no, Class_name, Total_st

2NF: 1st: T_id, phone_no

2nd: T_id, T_name, position

3rd: Class_name, Total_st

4th: T_id, Class_name

3NF: There no transitive dependency

1st: T_id, phone_no

2nd: T_id, T_name, position

3rd: Class_name, Total_st

4th: T_id, Class_name

Have:

UNF: Class_name, Total_St, eq_number, eq_name, quantity

1NF: Class_name, Total_St, eq_number, eq_name,

2NF: 1st: Class_name, Total_St

2nd: eq_number, eq_name, quantity

3rd: Class_name, eq_number

3NF: 1st: Class_name, Total_St

2nd: eq_number, eq_name

3rd: eq_name, quantity

4th: Class_name, eq_number

Maintain by :

UNF: eq_number, eq_name, quantity, stf_id, stf_name, stf_age, stf_post

1NF: eq_number, eq_name, quantity, stf_id, stf_name, stf_age, stf_post

2NF: 1st: eq_number, eq_name, quantity

2nd: stf_id, stf_name, stf_age, stf_post

3rd: eq_number, stf_id

3NF: 1st: eq_number, eq_name

2nd: eq_name, quantity

3rd: stf_id, stf_name, stf_age, stf_post

4th: eq_number, stf_id

Follow :

UNF : St_id, St_name, DOB, Standard, city, country, notice_number, event, class_update

1NF: St_id, St_name, DOB, Standard, city, country, notice_number, event, class_update

2NF: 1st: St_id, St_name, DOB, Standard, city, country

2nd: notice_number, event, class_update

3rd: St_id, notice_number

3NF: There no transitive dependency

1st: St_id, St_name, DOB, Standard, city

2nd: city, country

3rd: notice_number, event, class_update

4th: St_id, notice_number

Final table :

1st: St_id, St_name, DOB, Standard, city, Class_name, notice_number

2nd: city, country

3rd: Class_name, Total_St

4th: Sec_name, room_no, Class_name

5th: T_id, T_name, position, Class_name

6th: T_id, phone_no

7th: eq_number, eq_name, stf_id

8th: eq_name, quantity

9th: stf_id, stf_name, stf_age, stf_post

10th: notice_number, event, class_update

Tables and Attributes:

| Table no | Table name | Attributes |
|-----------------|-------------------|---|
| 1 | Student | <u>St_id</u> , St_name, DOB, Standard, city, <u>Class_name</u> , <u>notice_number</u> |
| 2 | Location | <u>city</u> , country |
| 3 | Class | <u>Class_name</u> , Total_St |
| 4 | Section | <u>Sec_name</u> , room_no, <u>Class_name</u> |
| 5 | Teacher | <u>T_id</u> , T_name, position, <u>Class_name</u> |
| 6 | Phone | <u>T_id</u> , phone_no |
| 7 | Equipment | <u>eq_number</u> , eq_name, <u>stf_id</u> |
| 8 | Eq_details | eq_name, quantity |
| 9 | Staff | <u>stf_id</u> , stf_name, stf_age, stf_post |
| 10 | Noticeboard | <u>notice_number</u> , event, class_update |

Table creation:

Student:

create table student (St_id number(4), St_name varchar2(33), DOB date, Standard number(4), city varchar2(10), Class_name varchar2(22), notice_number number(4), primary key (St_id));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table student (St_id number(4), St_name varchar2(33), DOB date, Standard number(4), city varchar2(10), Class_name varchar2(22), notice_number number(4), primary key ( St_id));
desc student
```

Below the code, the results of the DESCRIBE command are displayed in a table:

| Object Type | TABLE Object | STUDENT | | | | | | | |
|-------------|---------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
| STUDENT | ST_ID | Number | - | 4 | 0 | 1 | - | - | - |
| | ST_NAME | Varchar2 | 33 | - | - | - | ✓ | - | - |
| | DOB | Date | 7 | - | - | - | ✓ | - | - |
| | STANDARD | Number | - | 4 | 0 | - | ✓ | - | - |
| | CITY | Varchar2 | 10 | - | - | - | ✓ | - | - |
| | CLASS_NAME | Varchar2 | 22 | - | - | - | ✓ | - | - |
| | NOTICE_NUMBER | Number | - | 4 | 0 | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Location:

create table location (city varchar2(10), country varchar2(12), primary key(city));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table location (city varchar2(10), country varchar2(12), primary key(city));
desc location
```

Below the code, the results of the DESCRIBE command are displayed in a table:

| Object Type | TABLE Object | LOCATION | | | | | | | |
|-------------|--------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| Table | Column | Data type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
| LOCATION | CITY | Varchar2 | 10 | - | - | 1 | - | - | - |
| | country | Varchar2 | 12 | - | - | - | ✓ | - | - |



Class:

create table class (Class_name varchar2(22), Total_St number(8), primary key(Class_name));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table class ( Class_name varchar2(22), Total_St number(8), primary key(Class_name));
desc class
```

Below the code, the results of the DESCRIBE command are shown:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| CLASS | CLASS_NAME | VARCHAR2 | 22 | - | - | 1 | - | - | - |
| | TOTAL_ST | NUMBER | - | 8 | 0 | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1 0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Section:

create table section (Sec_name varchar2(12), room_no number(4), Class_name varchar2(22), primary key(Sec_name));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table section (Sec_name varchar2(12), room_no number(4), Class_name varchar2(22), primary key(Sec_name));
desc section
```

Below the code, the results of the DESCRIBE command are shown:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| SECTION | SEC_NAME | VARCHAR2 | 12 | - | - | 1 | - | - | - |
| | ROOM_NO | NUMBER | - | 4 | 0 | - | ✓ | - | - |
| | CLASS_NAME | VARCHAR2 | 22 | - | - | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1 0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Teacher:

```
create table teacher (T_id number(4), T_name varchar2(22), position varchar2(12), Class_name  
varchar2(22),  
primary key(T_id));
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table teacher (T_id number(4), T_name varchar2(22), position varchar2(12), Class_name varchar2(22),  
primary key(T_id));  
  
desc teacher;
```

Below the code, the results of the DESCRIBE command are displayed, showing the columns and their properties for the 'TEACHER' table:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---------|------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| TEACHER | T_ID | Number | - | 4 | 0 | 1 | - | - | - |
| | T_NAME | VARCHAR2 | 22 | - | - | - | ✓ | - | - |
| | POSITION | VARCHAR2 | 12 | - | - | - | ✓ | - | - |
| | CLASS_NAME | VARCHAR2 | 22 | - | - | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Phone:

```
create table phone (T_id number(4), phone_no number(12),  
primary key(T_id));
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table phone (T_id number(4), phone_no number(12),  
primary key(T_id));  
  
desc phone;
```

Below the code, the results of the DESCRIBE command are displayed, showing the columns and their properties for the 'PHONE' table:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| PHONE | T_ID | Number | - | 4 | 0 | 1 | - | - | - |
| | PHONE_NO | Number | - | 12 | 0 | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Equipment:

create table equipment (eq_number number(10), eq_name varchar2(18), stf_id number(4), primary key(eq_number));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table equipment (eq_number number(10), eq_name varchar2(18), stf_id number(4), primary key(eq_number));
desc equipment
```

Below the code, the results of the DESCRIBE command are displayed in a table:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-----------|-----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EQUIPMENT | EQ_NUMBER | Number | - | 10 | 0 | 1 | - | - | |
| | EQ_NAME | VARCHAR2 | 18 | - | - | - | ✓ | - | - |
| | STF_ID | Number | - | 4 | 0 | - | ✓ | - | - |

At the bottom of the interface, it says "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Eq_details:

create table eq_details (eq_name varchar2(18), quantity number(12), primary key(eq_name));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table eq_details (eq_name varchar2(18), quantity number(12), primary key(eq_name));
desc eq_details
```

Below the code, the results of the DESCRIBE command are displayed in a table:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|------------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| EQ_DETAILS | EQ_NAME | VARCHAR2 | 18 | - | - | 1 | - | - | |
| | QUANTITY | Number | - | 12 | 0 | - | ✓ | - | - |

At the bottom of the interface, it says "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Staff:

create table staff (stf_id number(4), stf_name varchar2(22), stf_age number(8), stf_post varchar2(12), primary key(stf_id));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table staff (stf_id number(4), stf_name varchar2(22), stf_age number(8), stf_post varchar2(12), primary key(stf_id));
desc staff
```

Below the code, the results of the DESCRIBE command are displayed in a table:

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------|----------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| STAFF | STF_ID | Number | - | 4 | 0 | 1 | - | - | - |
| STAFF | STF_NAME | VARCHAR2 | 22 | - | - | - | ✓ | - | - |
| STAFF | STF_AGE | Number | - | 8 | 0 | - | ✓ | - | - |
| STAFF | STF_POST | VARCHAR2 | 12 | - | - | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Noticeboard:

create table noticeboard (notice_number number(8), event varchar2(20), class_update varchar2(50), primary key(notice_number));

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
create table noticeboard (notice_number number(8), event varchar2(20), class_update varchar2(50), primary key(notice_number));
desc noticeboard
```

Below the code, the results of the DESCRIBE command are displayed in a table:

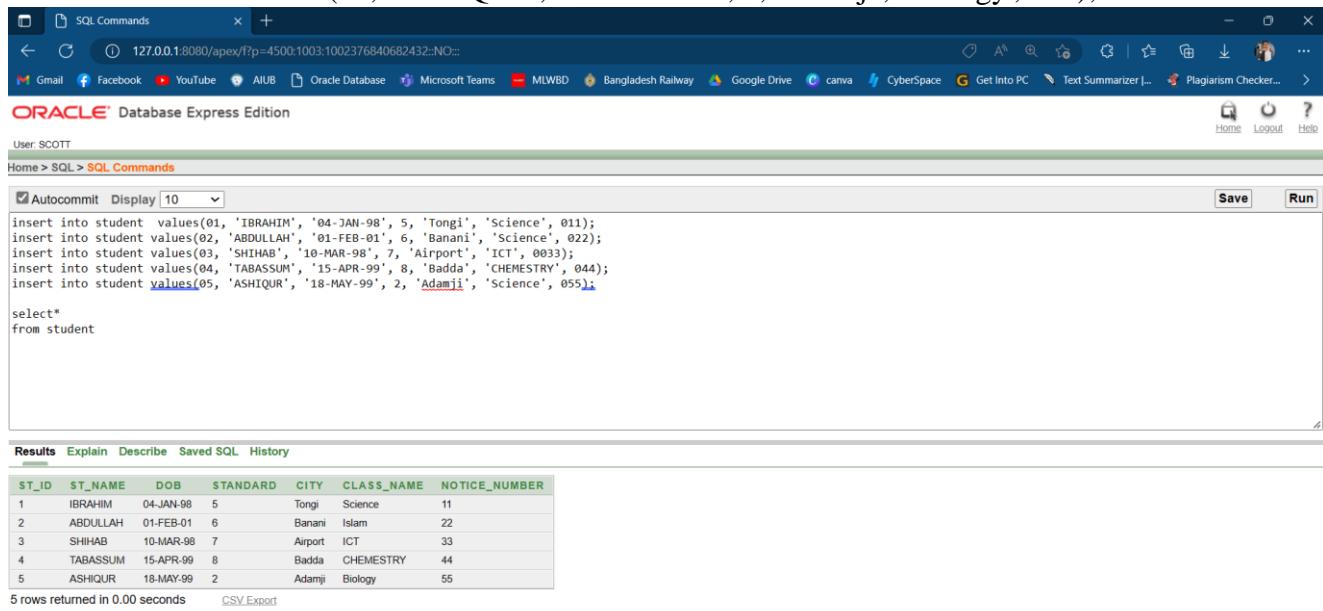
| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|-------------|---------------|-----------|--------|-----------|-------|-------------|----------|---------|---------|
| NOTICEBOARD | NOTICE_NUMBER | Number | - | 8 | 0 | 1 | - | - | - |
| NOTICEBOARD | EVENT | VARCHAR2 | 20 | - | - | - | ✓ | - | - |
| NOTICEBOARD | CLASS_UPDATE | VARCHAR2 | 50 | - | - | - | ✓ | - | - |

At the bottom of the interface, it says "Language: en-us" and "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved."

Data insertion:

Data insert for Student table :

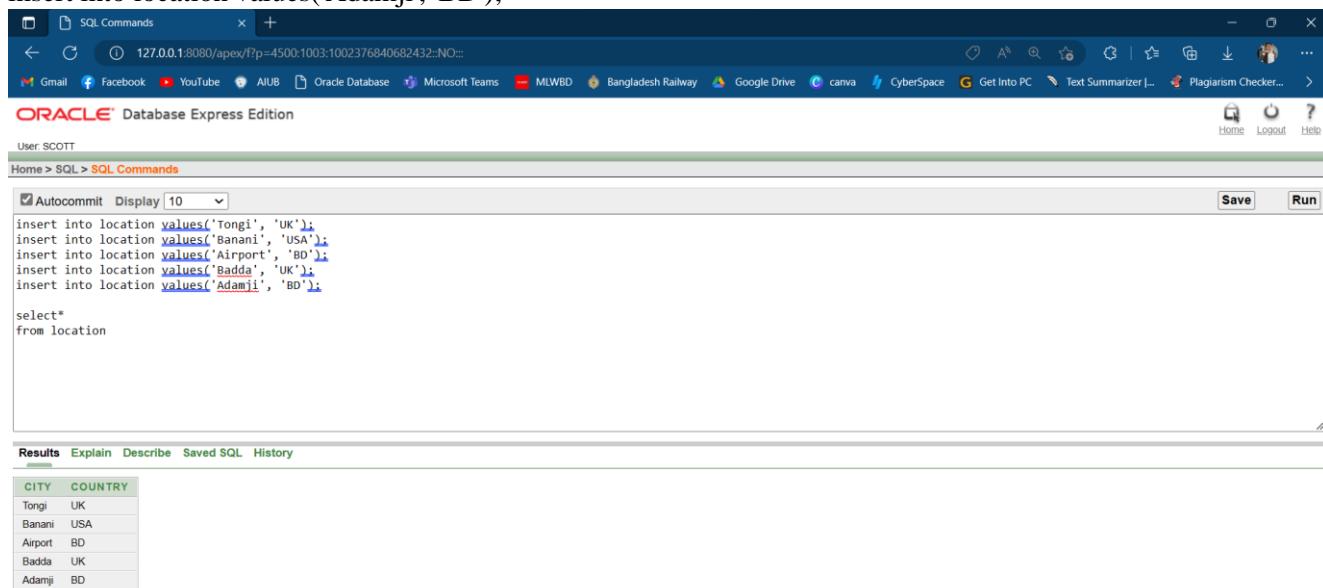
```
insert into student values(01, 'IBRAHIM', '04-JAN-98', 5, 'Tongi', 'Science', 011);
insert into student values(02, 'ABDULLAH', '01-FEB-01', 6, 'Banani', 'Islam', 022);
insert into student values(03, 'SHIHAB', '10-MAR-98', 7, 'Airport', 'ICT', 0033);
insert into student values(04, 'TABASSUM', '15-APR-99', 8, 'Badda', 'CHEMESTRY', 044);
insert into student values(05, 'ASHIQU'R', '18-MAY-99', 2, 'Adamji', 'Biology', 055);
```



| ST_ID | ST_NAME | DOB | STANDARD | CITY | CLASS_NAME | NOTICE_NUMBER |
|-------|----------|-----------|----------|---------|------------|---------------|
| 1 | IBRAHIM | 04-JAN-98 | 5 | Tongi | Science | 11 |
| 2 | ABDULLAH | 01-FEB-01 | 6 | Banani | Islam | 22 |
| 3 | SHIHAB | 10-MAR-98 | 7 | Airport | ICT | 33 |
| 4 | TABASSUM | 15-APR-99 | 8 | Badda | CHEMESTRY | 44 |
| 5 | ASHIQU'R | 18-MAY-99 | 2 | Adamji | Biology | 55 |

Data insertion for Location table:

```
insert into location values('Tongi', 'UK');
insert into location values('Banani', 'USA');
insert into location values('Airport', 'BD');
insert into location values('Badda', 'UK');
insert into location values('Adamji', 'BD');
```



| CITY | COUNTRY |
|---------|---------|
| Tongi | UK |
| Banani | USA |
| Airport | BD |
| Badda | UK |
| Adamji | BD |



Data insertion for class table :

```
insert into class values('Science', 22)
insert into class values ('Islam', 32)
insert into class values ('ICT', 42)
insert into class values ('Chemestry', 52)
insert into class values ('Biology', 62)
insert into class values ('Lab', 64)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following SQL code:

```
insert into class values('Science', 22)
insert into class values ('Islam', 32)
insert into class values ('ICT', 42)
insert into class values ('Chemestry', 52)
insert into class values ('Biology', 62)
insert into class values ('Lab', 64)

select*
from class
```

Below the code, the results are displayed in a table:

| CLASS_NAME | TOTAL_ST |
|------------|----------|
| Science | 22 |
| Islam | 32 |
| ICT | 42 |
| Chemestry | 52 |
| Biology | 62 |
| Lab | 64 |

6 rows returned in 0.00 seconds

CSV Export

Application Express 2.1.0.0.39
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Data insertion for Section table:

```
insert into section values('A', 010, 'Science')
insert into section values('B', 020, 'Islam')
insert into section values('C', 030, 'ICT')
insert into section values('D', 040, 'Chemestry')
insert into section values('E', 050, 'Biology')
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following SQL code:

```
insert into section values('A', 010, 'Science')
insert into section values('B', 020, 'Islam')
insert into section values('C', 030, 'ICT')
insert into section values('D', 040, 'Chemestry')
insert into section values('E', 050, 'Biology')

select*
from section
```

Below the code, the results are displayed in a table:

| SEC_NAME | ROOM_NO | CLASS_NAME |
|----------|---------|------------|
| A | 10 | Science |
| B | 20 | Islam |
| C | 30 | ICT |
| D | 40 | Chemestry |
| E | 50 | Biology |

5 rows returned in 0.00 seconds

CSV Export

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Data insertion for Teacher table:

```
insert into teacher values(101,'RDS','Lecturer', 'Science')
insert into teacher values(102,'DDF','Lecturer', 'Islam')
insert into teacher values(103,'FDDN','Assistant Teacher', 'ICT')
insert into teacher values(104,'MAH','Proffessor', 'Chemestry')
insert into teacher values(105,'STH','Lecture', 'Biology')
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands tab contains the following SQL code:

```
insert into teacher values(101,'RDS','Lecturer', 'Science')
insert into teacher values(102,'DDF','Lecturer', 'Islam')
insert into teacher values(103,'FDDN','Assistant Teacher', 'ICT')
insert into teacher values(104,'MAH','Proffessor', 'Chemestry')
insert into teacher values(105,'STH','Lecture', 'Biology')

select*
from teacher
```

The Results tab displays the following table:

| T_ID | T_NAME | POSITION | CLASS_NAME |
|------|--------|-------------|------------|
| 103 | FDDN | Assistant T | ICT |
| 104 | MAH | Professor | Chemestry |
| 105 | STH | Lecture | Biology |
| 101 | RDS | Lecturer | Science |
| 102 | DDF | Lecturer | Islam |

5 rows returned in 0.00 seconds [CSV Export](#)

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Data insertion for phone table:

```
insert into phone values(101, 0171234567)
insert into phone values(102, 0178985552)
insert into phone values(103, 0186558451)
insert into phone values(104, 0156484555)
insert into phone values(105, 0194555144)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands tab contains the following SQL code:

```
insert into phone values(101, 0171234567)
insert into phone values(102, 0178985552)
insert into phone values(103, 0186558451)
insert into phone values(104, 0156484555)
insert into phone values(105, 0194555144)

select*
from phone
```

The Results tab displays the following table:

| T_ID | PHONE_NO |
|------|-----------|
| 101 | 171234567 |
| 102 | 178985552 |
| 103 | 186558451 |
| 104 | 156484555 |
| 105 | 194555144 |

5 rows returned in 0.00 seconds [CSV Export](#)

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Data insertion for equipment table:

```
insert into equipment values(111, 'Marker', 01712)
insert into equipment values(222, 'Test tube', 01789)
insert into equipment values(333, 'Micro scop', 01865)
insert into equipment values(444, 'S Acid', 01565)
insert into equipment values(555, 'Lighter', 01944)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands page displays the following SQL code:

```
insert into equipment values(111, 'Marker', 01712)
insert into equipment values(222, 'Test tube', 01789)
insert into equipment values(333, 'Micro scop', 01865)
insert into equipment values(444, 'S Acid', 01565)
insert into equipment values(555, 'Lighter', 01944)

select*
from equipment
```

Below the code, a results grid shows the data inserted into the equipment table:

| EQ_NUMBER | EQ_NAME | STF_ID |
|-----------|------------|--------|
| 111 | Marker | 1712 |
| 222 | Test tube | 1789 |
| 333 | Micro scop | 1865 |
| 444 | S Acid | 1565 |
| 555 | Lighter | 1944 |

5 rows returned in 0.00 seconds [CSV Export](#)

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Data insertion for Eq_details table:

```
insert into eq_details values('Marker', 86)
insert into eq_details values('Test tube', 30)
insert into eq_details values('Micro scop', 11)
insert into eq_details values('S Acid', 10)
insert into eq_details values('Lighter', 74)
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands page displays the following SQL code:

```
insert into eq_details values('Marker', 86)
insert into eq_details values('Test tube', 30)
insert into eq_details values('Micro scop', 11)
insert into eq_details values('S Acid', 10)
insert into eq_details values('Lighter', 74)

select*
from Eq_details
```

Below the code, a results grid shows the data inserted into the eq_details table:

| EQ_NAME | QUANTITY |
|------------|----------|
| Marker | 86 |
| Test tube | 30 |
| Micro scop | 11 |
| S Acid | 10 |
| Lighter | 74 |

5 rows returned in 0.01 seconds [CSV Export](#)

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Data insertion for Staff table:

```
insert into staff values(111, 'Martin', 29,'Clerk')
insert into staff values(112, 'Tabla', 27,'Staff')
insert into staff values(113, 'Mickel', 31,'Cleraner')
insert into staff values(114, 'Ac Dada', 35,'Staff')
insert into staff values(115, 'Luthar', 34,'Staff')
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands tab, several SQL statements are entered to insert data into the 'staff' table. The Results tab displays the inserted data in a grid format.

```
insert into staff values(111, 'Martin', 29,'Clerk')
insert into staff values(112, 'Tabla', 27,'Staff')
insert into staff values(113, 'Mickel', 31,'Cleraner')
insert into staff values(114, 'Ac Dada', 35,'Staff')
insert into staff values(115, 'Luthar', 34,'Staff')$
```

| STF_ID | STF_NAME | STF AGE | STF_POST |
|--------|----------|---------|----------|
| 111 | Martin | 29 | Clerk |
| 112 | Tabla | 27 | Staff |
| 113 | Mickel | 31 | Cleraner |
| 114 | Ac Dada | 35 | Staff |
| 115 | Luthar | 34 | Staff |

5 rows returned in 0.00 seconds [CSV Export](#)

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Data insertion for Noticeboard table:

```
insert into noticeboard values(1, 'Ann Function', 'Off')
insert into noticeboard values(2, 'Science Fest', 'Pospond')
insert into noticeboard values(3, 'Art Show', 'Cancel')
insert into noticeboard values(4, 'Prize giving', 'no notice')
insert into noticeboard values(5, 'Sport comp', 'collect result')
insert into noticeboard values(6, 'Holiday', 'no notice')
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands tab, several SQL statements are entered to insert data into the 'noticeboard' table. The Results tab displays the inserted data in a grid format.

```
insert into noticeboard values(1, 'Ann Function', 'Off')
insert into noticeboard values(2, 'Science Fest', 'Pospond')
insert into noticeboard values(3, 'Art Show', 'Cancel')
insert into noticeboard values(4, 'Prize giving', 'no notice')
insert into noticeboard values(5, 'Sport comp', 'collect result')
insert into noticeboard values(6, 'Holiday', 'no notice')$
```

| NOTICE_NUMBER | EVENT | CLASS_UPDATE |
|---------------|--------------|----------------|
| 1 | Ann Function | Off |
| 2 | Science Fest | Pospond |
| 3 | Art Show | Cancel |
| 4 | Prize giving | no notice |
| 5 | Sport comp | collect result |
| 6 | Holiday | no notice |

6 rows returned in 0.00 seconds [CSV Export](#)

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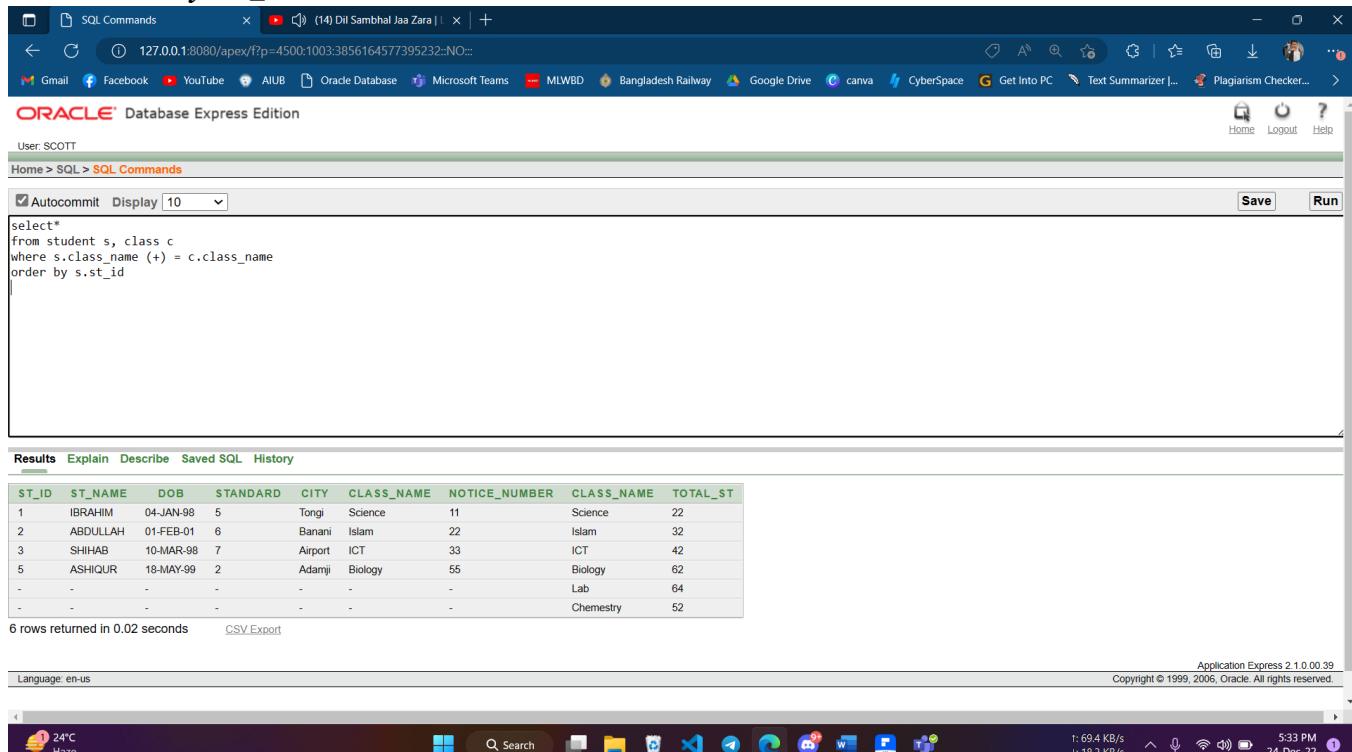
Joining:

Outer join:

Display all students information and their class information along with class name and ordered by id

select*

```
from student s, class c  
where s.class_name (+) = c.class_name  
order by s.st_id
```



The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following query:

```
select*  
from student s, class c  
where s.class_name (+) = c.class_name  
order by s.st_id
```

The results pane displays a table with the following data:

| ST_ID | ST_NAME | DOB | STANDARD | CITY | CLASS_NAME | NOTICE_NUMBER | CLASS_NAME | TOTAL_ST |
|-------|----------|-----------|----------|---------|------------|---------------|------------|----------|
| 1 | IBRAHIM | 04-JAN-98 | 5 | Tongi | Science | 11 | Science | 22 |
| 2 | ABDULLAH | 01-FEB-01 | 6 | Banani | Islam | 22 | Islam | 32 |
| 3 | SHIHAB | 10-MAR-98 | 7 | Airport | ICT | 33 | ICT | 42 |
| 5 | ASHIQU'R | 18-MAY-99 | 2 | Adamji | Biology | 55 | Biology | 62 |
| - | - | - | - | - | - | - | Lab | 64 |
| - | - | - | - | - | - | - | Chemistry | 52 |

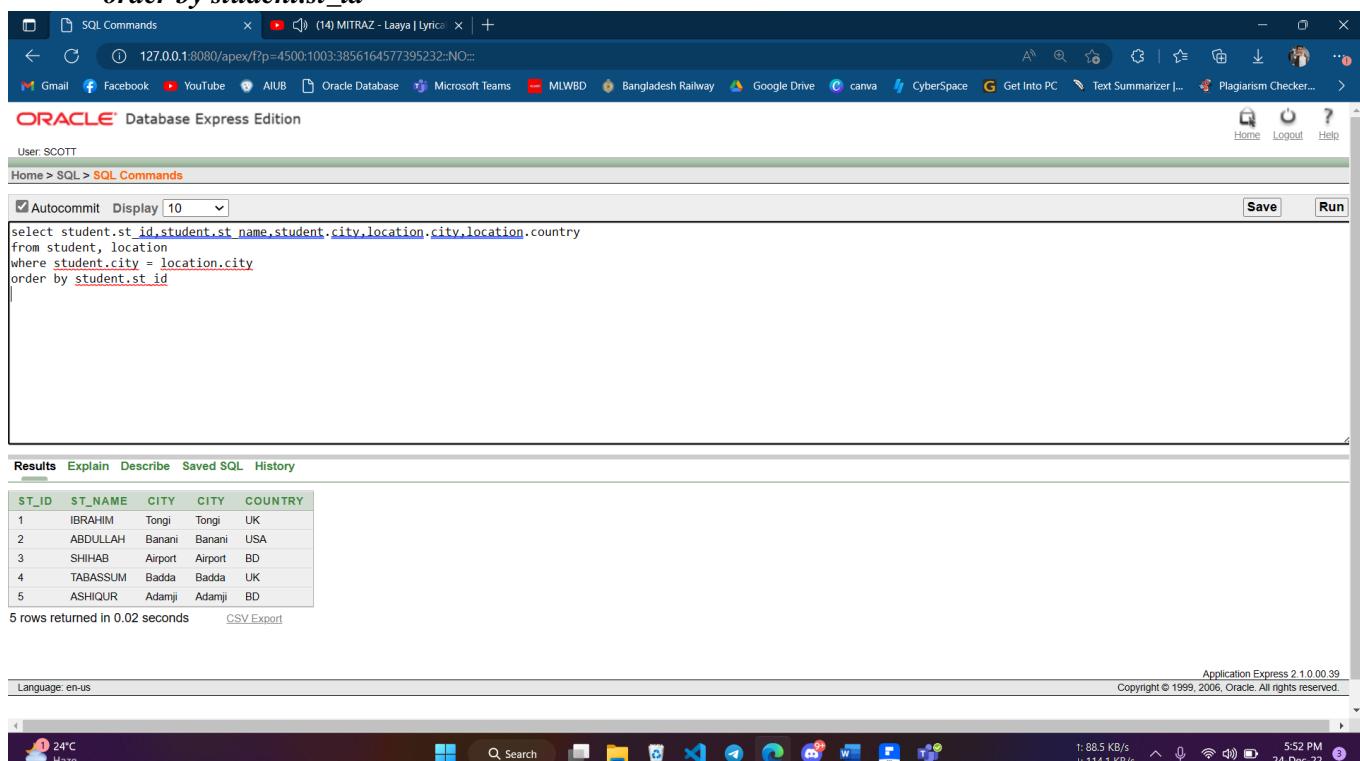
6 rows returned in 0.02 seconds [CSV Export](#)

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Equijoin:

Display student's id, name, city and country from student table and location table. And order by id in assending

```
select student.st_id,student.st_name,student.city,location.city,location.country  
from student, location  
where student.city = location.city  
order by student.st_id
```



The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following query:

```
select student.st_id,student.st_name,student.city,location.city,location.country  
from student, location  
where student.city = location.city  
order by student.st_id
```

The results pane displays a table with the following data:

| ST_ID | ST_NAME | CITY | CITY | COUNTRY |
|-------|----------|---------|---------|---------|
| 1 | IBRAHIM | Tongi | Tongi | UK |
| 2 | ABDULLAH | Banani | Banani | USA |
| 3 | SHIHAB | Airport | Airport | BD |
| 4 | TABASSUM | Badda | Badda | UK |
| 5 | ASHIQU'R | Adamji | Adamji | BD |

5 rows returned in 0.02 seconds [CSV Export](#)

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Self join :

Show the teacher name and which class they take

```
select a.t_name||' '||' takes'||' '||b.class_name||' '||'class' as "Teacher & classes"
from teacher a, teacher b
where a.t_id = b.t_id
```

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following query:

```
select a.t_name||' '||' takes'||' '||b.class_name||' '||'class' as "Teacher & classes"
from teacher a, teacher b
where a.t_id = b.t_id
```

The results pane displays the output:

| Teacher & Classes |
|---------------------------|
| MDNN takes ICT class |
| MAH takes Chemistry class |
| STH takes Biology class |
| RDS takes Science class |
| DDF takes Islam class |

5 rows returned in 0.00 seconds

CSV Export

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Subquery :

Subquery 1: write a subquery to found who's standard are above id 1 student's standard

```
SELECT St_name
FROM student
WHERE Standard>(SELECT Standard
                  from student
                  where St_id= 1);
```

The screenshot shows the Oracle Database Express Edition interface. The SQL command window contains the following query:

```
SELECT St_name
FROM student
WHERE Standard>(SELECT Standard
                  from student
                  where St_id= 1);
```

The results pane displays the output:

| ST_NAME |
|----------|
| ABDULLAH |
| SHIHAB |
| TABASUM |

3 rows returned in 0.00 seconds

CSV Export

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Subquery 2: write a subquery to find the teachers name who are in lecturer position

```
SELECT T_name,  
FROM teacher  
WHERE T_id IN(SELECT T_id FROM teacher  
                 WHERE position= 'Lecturer');
```

A screenshot of the Oracle Database Express Edition interface. The top navigation bar shows the URL as 127.0.0.1:8080/apex/f?p=4500:1003:3856164577395232::NO:::. Below the URL are various browser tabs and links. The main title is 'ORACLE Database Express Edition'. A user dropdown shows 'User: SCOTT'. The page title is 'Home > SQL > SQL Commands'. The SQL editor contains the following code:

```
SELECT T_name
FROM teacher
WHERE T_id IN (SELECT T_id FROM teacher
                WHERE position= 'lecturer');
```

The code is highlighted in blue, indicating syntax errors. The 'Run' button is visible at the bottom right of the editor.

[View Details](#)

[CSV Export](#)

View :

Simple view:

Create a view named Equip that contains equipment name which is multiple numbers. Label EQUIPMENT NAME as well

```
CREATE VIEW Equip AS SELECT eq_name EQUIPMENT_NAME  
FROM Eq_details  
WHERE quantity>1;
```

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The URL in the browser is `127.0.0.1:8080/apex/f?p=4500:1003:385616457739523::NO::`. The page title is "SQL Commands". The top navigation bar includes links for Gmail, Facebook, YouTube, AIUB, Oracle Database, Microsoft Teams, MLWBD, Bangladesh Railway, Google Drive, canva, CyberSpace, Get Into PC, Text Summarizer, and Plagiarism Checker. The user is logged in as SCOTT. The main content area shows the following SQL code:

```
CREATE VIEW Equip AS SELECT eq_name EQUIPMENT_NAME  
FROM Eq_details  
WHERE quantity>1;
```

There are "Save" and "Run" buttons at the bottom right of the code editor.

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Complex view:

create a view named Stuff that contains stuff name and minimum age for the employees of position "Staff"

```
CREATE VIEW Stuff(stf_name,stf_age)
AS SELECT stf_name, MIN(stf_age)
from staff
WHERE stf_post= 'staff'
group by stf_name
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
CREATE VIEW Stuff(stf_name,stf_age)
AS SELECT stf_name, MIN(stf_age)
from staff
WHERE stf_post= 'staff'
group by stf_name
```

After running the command, the results show:

View created.

0.02 seconds

At the bottom, the status bar indicates:

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Constraint:

Adding a constraint to Phone table: add constraint to make sure that phone number can not be null

```
alter table phone modify phone_no constraint nnl not null
```

The screenshot shows the Oracle Database Express Edition interface. In the SQL Commands window, the following SQL code is entered:

```
alter table phone modify phone_no constraint nnl not null
```

After running the command, the results show:

Table altered.

0.11 seconds

At the bottom, the status bar indicates:

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SEQUENCE:

Create a sequence name of st_id start from 1 ,increment by 1 , no cycle and no cache

```
create sequence st_id  
start with 1  
increment by 1  
nocache  
nocycle;
```

The screenshot shows a browser window for Oracle Database Express Edition. The URL is 127.0.0.1:8080/apex/?p=4500:1003:3856164577395232:NO:m. The page title is SQL Commands. The user is SCOTT. The SQL command entered is:

```
CREATE SEQUENCE st_id  
START WITH 1  
INCREMENT BY 1  
NOCACHE  
NOCYCLE;
```

The results section shows the message "Sequence created." and "0.03 seconds". The bottom status bar indicates Application Express 2.1.0.00.39, Copyright © 1999, 2006, Oracle. All rights reserved.