



# Assignment

Assignment No. – 01

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Course Title- DBMS (Lab)

Course Code: CSE-2424

Submitted to-

**Mr. Mohammad Aman Ullah**

**Assistant Professor**

01815641524

[ullah047@yahoo.com](mailto:ullah047@yahoo.com), [aman\\_cse@iiuc.ac.bd](mailto:aman_cse@iiuc.ac.bd)

Submitted by-

**MD. SOROWAR MAHABUB RABBY**

Matric ID: **C201032**, Section: **4AM**, Semester: **4<sup>th</sup>**

Department of CSE (Computer Science and Engineering), IIUC

Cell: 01834756433, 01521564157, [c201032@ugrad.iiuc.ac.bd](mailto:c201032@ugrad.iiuc.ac.bd)

## Part 1

### Test your knowledge:

1. Initiate an iSQL\*Plus session using the user ID and password that are provided by the instructor.

2. iSQL\*Plus commands access the database.

**Answer: False**

3. The following SELECT statement executes successfully:

```
SELECT last_name, job_id, salary AS Sal  
FROM employees;
```

**Answer: True**

4. The following SELECT statement executes successfully:

```
SELECT *  
FROM job_grades;
```

**Answer: True**

5. There are four coding errors in the following statement. Can you identify them?

```
SELECT      employee_id, last_name  
sal x 12    ANNUAL SALARY  
FROM        employees;
```

**Answer: Four errors are in the following-**

1. There is no column named **sal** in the EMPLOYEES table, the right column name is **SALARY**.
2. A comma is missing after the LAST\_NAME column in line 1.
3. In line 2, the multiplication operator is **\***, not **x**.
4. In line 2, The alias should read **ANNUAL\_SALARY** or should be enclosed in double quotation marks. As we know, alias cannot include spaces (ANNUAL SALARY).

## Part 2

You have been hired as a SQL programmer for Acme Corporation. Your first task is to create some reports based on data from the Human Resources tables

6. Your first task is to determine the structure of the DEPARTMENTS table and its contents.

Name	Null?	Type
DEPARTMENT_ID	NOT NULL	NUMBER(4)
DEPARTMENT_NAME	NOT NULL	VARCHAR2(30)
MANAGER_ID		NUMBER(6)
LOCATION_ID		NUMBER(4)

**Answer:**

```
DESCRIBE departments
SELECT *
FROM departments;
```

7. You need to determine the structure of the EMPLOYEES table.

**Answer:**

```
DESCRIBE employees
```

Results Explain Describe Saved SQL History									
Object Type TABLE Object EMPLOYEES									
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEES	EMPLOYEE_ID	Number	-	6	0	1	-	-	Primary key of employees table.
	FIRST_NAME	Varchar2	20	-	-	-	✓	-	First name of the employee. A not null column.
	LAST_NAME	Varchar2	25	-	-	-	-	-	Last name of the employee. A not null column.
	EMAIL	Varchar2	25	-	-	-	-	-	Email id of the employee
	PHONE_NUMBER	Varchar2	20	-	-	-	✓	-	Phone number of the employee; includes country code and area code
	HIRE_DATE	Date	7	-	-	-	-	-	Date when the employee started on this job. A not null column.
	JOB_ID	Varchar2	10	-	-	-	-	-	Current job of the employee; foreign key to job_id column of the jobs table. A not null column.
	SALARY	Number	-	8	2	-	✓	-	Monthly salary of the employee. Must be greater than zero (enforced by constraint emp_salary_min)
	COMMISSION_PCT	Number	-	2	2	-	✓	-	Commission percentage of the employee; Only employees in sales department eligible for commission percentage
	MANAGER_ID	Number	-	6	0	-	✓	-	Manager id of the employee; has same domain as manager_id in departments table. Foreign key to employee_id column of employees table. (useful for reflexive joins and CONNECT BY query)
	DEPARTMENT_ID	Number	-	4	0	-	✓	-	Department id where employee works; foreign key to department_id column of the departments table

```
SELECT employee_id, last_name, job_id, hire_date StartDate
FROM employees;
```

User: HR

Home > SQL > SQL Commands

☒ Autocommit   Display 10 ▼

```
SELECT employee_id, last_name, job_id, hire_date StartDate
FROM employees;
```

**Results**   Explain   Describe   Saved SQL   History

EMPLOYEE_ID	LAST_NAME	JOB_ID	STARTDATE
100	King	AD_PRES	17-JUN-87
101	Kochhar	AD_VP	21-SEP-89
102	De Haan	AD_VP	13-JAN-93
103	Hunold	IT_PROG	03-JAN-90
104	Ernst	IT_PROG	21-MAY-91
105	Austin	IT_PROG	25-JUN-97
106	Pataballa	IT_PROG	05-FEB-98
107	Lorentz	IT_PROG	07-FEB-99
108	Greenberg	FI_MGR	17-AUG-94
109	Faviet	FI_ACCOUNT	16-AUG-94

More than 10 rows available. Increase rows selector to view more rows.

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

8. Test your query in the file lab\_01\_07.sql to ensure that it runs correctly.

```
SELECT employee_id, last_name, job_id, hire_date StartDate
FROM employees;
```

The screenshot shows the Oracle Database Express Edition interface. The user is 'HR'. The SQL command entered is:
 

```
SELECT employee_id, last_name, job_id, hire_date StartDate
FROM employees;
```

 The query has been executed successfully. The results are displayed in a table with the following columns: EMPLOYEE\_ID, LAST\_NAME, JOB\_ID, and STARTDATE. The table contains 10 rows of data, with a note indicating that more than 10 rows are available. The status bar shows '10 rows returned in 0.00 seconds' and a 'CSV Export' link.

EMPLOYEE_ID	LAST_NAME	JOB_ID	STARTDATE
100	King	AD_PRES	17-JUN-87
101	Kochhar	AD_VP	21-SEP-89
102	De Haan	AD_VP	13-JAN-93
103	Hunold	IT_PROG	03-JAN-90
104	Ernst	IT_PROG	21-MAY-91
105	Austin	IT_PROG	25-JUN-97
106	Pataballa	IT_PROG	05-FEB-98
107	Lorentz	IT_PROG	07-FEB-99
108	Greenberg	FI_MGR	17-AUG-94
109	Faviet	FI_ACCOUNT	16-AUG-94

9. The HR department needs a query to display all unique job codes from the EMPLOYEES table.

```
SELECT DISTINCT job_id
FROM employees;
```

The screenshot shows the Oracle Database Express Edition interface. The user is 'HR'. The SQL command entered is:
 

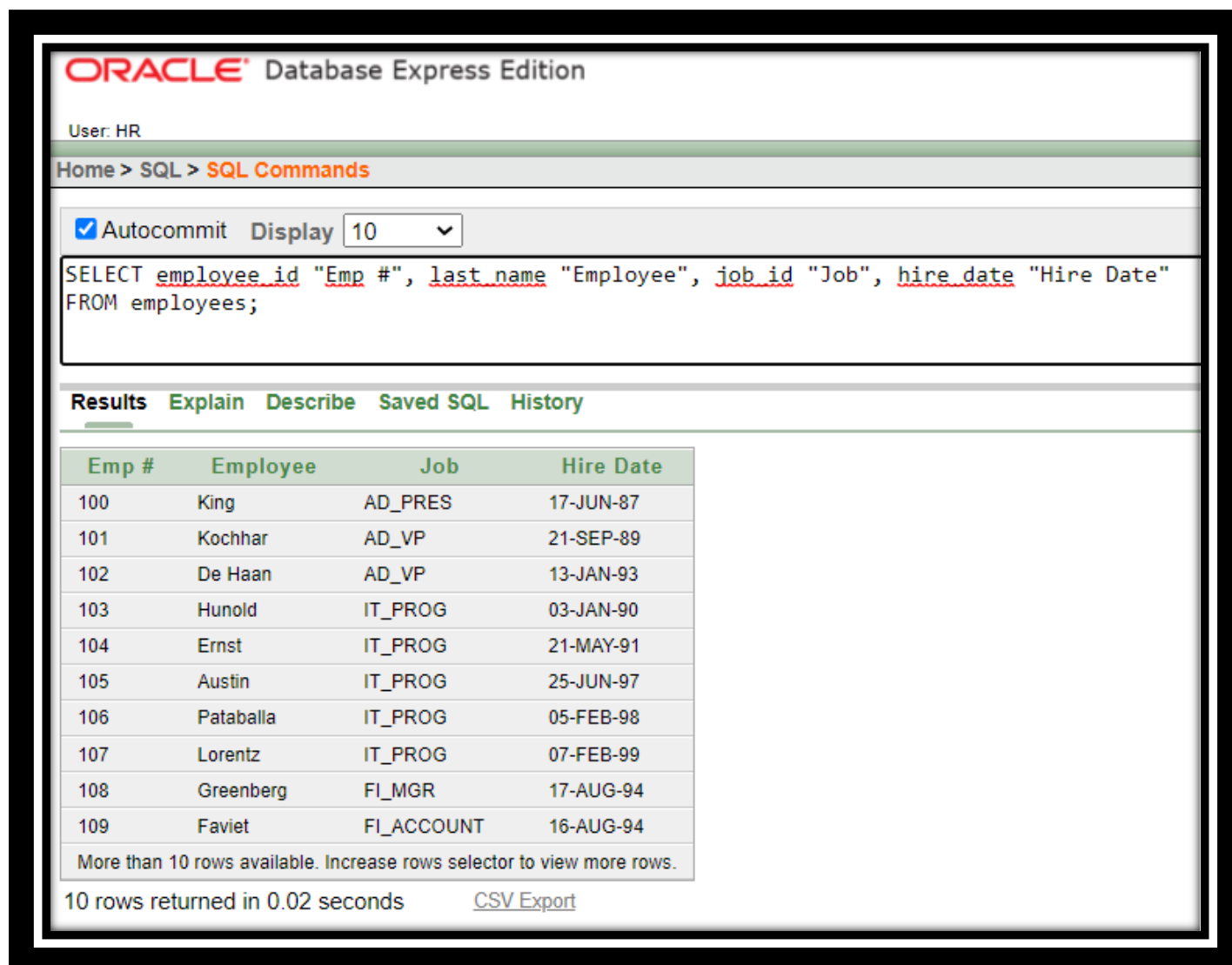
```
SELECT DISTINCT job_id
FROM employees;
```

 The query has been executed successfully. The results are displayed in a table with the following column: JOB\_ID. The table contains 10 rows of data, with a note indicating that more than 10 rows are available. The status bar shows '10 rows returned in 0.00 seconds' and a 'CSV Export' link.

JOB_ID
AC_ACCOUNT
AC_MGR
AD_ASST
AD_PRES
AD_VP
FI_ACCOUNT
FI_MGR
HR_REP
IT_PROG
MK_MAN

10. The HR department wants more descriptive column headings for its report on employees. Copy the statement from lab\_01\_07.sql to the iSQL\*Plus Edit window. Name the column headings Emp #, Employee, Job, and Hire Date, respectively. Then run your query again.

```
SELECT employee_id "Emp #", last_name "Employee",
       job_id "Job", hire_date "Hire Date"
FROM employees;
```



The screenshot shows the Oracle Database Express Edition interface. The top bar indicates the user is 'HR'. The breadcrumb navigation shows 'Home > SQL > SQL Commands'. The SQL Commands window contains the query: `SELECT employee_id "Emp #", last_name "Employee", job_id "Job", hire_date "Hire Date" FROM employees;`. Below the query window, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is active, showing a table with 10 rows and 4 columns: 'Emp #', 'Employee', 'Job', and 'Hire Date'. The table contains data for employees 100 through 109. At the bottom of the Results window, it states '10 rows returned in 0.02 seconds' and provides a 'CSV Export' link.

Emp #	Employee	Job	Hire Date
100	King	AD_PRES	17-JUN-87
101	Kochhar	AD_VP	21-SEP-89
102	De Haan	AD_VP	13-JAN-93
103	Hunold	IT_PROG	03-JAN-90
104	Ernst	IT_PROG	21-MAY-91
105	Austin	IT_PROG	25-JUN-97
106	Pataballa	IT_PROG	05-FEB-98
107	Lorentz	IT_PROG	07-FEB-99
108	Greenberg	FI_MGR	17-AUG-94
109	Faviet	FI_ACCOUNT	16-AUG-94

More than 10 rows available. Increase rows selector to view more rows.

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

11. The HR department has requested a report of all employees and their job IDs. Display the last name concatenated with the job ID (separated by a comma and space) and name the column Employee and Title.

```
SELECT last_name || ', ' || job_id AS "Employee and Title"
FROM employees;
```

The screenshot shows the Oracle Database Express Edition interface. The user is 'HR'. The breadcrumb navigation is 'Home > SQL > SQL Commands'. The 'Autocommit' checkbox is checked, and the 'Display' dropdown is set to '10'. The SQL command entered is:

```
SELECT last_name||', '||job_id AS "Employee and Title"
FROM employees;
```

Below the command, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is active, showing a table titled 'Employee And Title' with 10 rows of data. The data is as follows:

Employee And Title
King, AD_PRES
Kochhar, AD_VP
De Haan, AD_VP
Hunold, IT_PROG
Ernst, IT_PROG
Austin, IT_PROG
Pataballa, IT_PROG
Lorentz, IT_PROG
Greenberg, FI_MGR
Faviet, FI_ACCOUNT

At the bottom of the results, it says 'More than 10 rows available. Increase rows selector to view more rows.' and '10 rows returned in 0.00 seconds'. There is also a 'CSV Export' link.

12. To familiarize yourself with the data in the EMPLOYEES table, create a query to display all the data from the EMPLOYEES table. Separate each column output by a comma. Name the column title THE\_OUTPUT.

```
SELECT employee_id || ',' || first_name || ',' || last_name || ',' || email || ',' ||
phone_number || ',' || job_id
|| ',' || manager_id || ',' || hire_date || ',' || salary || ',' || commission_pct || ',' ||
department_id
AS THE_OUTPUT
FROM employees;
```

**ORACLE® Database Express Edition**

User: HR

Home > SQL > **SQL Commands**

☒ Autocommit   Display 10

```
SELECT employee_id || ',' || first_name || ',' || last_name || ',' || email || ',' || phone_number || ',' || job_id
|| ',' || manager_id || ',' || hire_date || ',' || salary || ',' || commission_pct || ',' || department_id
AS THE_OUTPUT
FROM employees;
```

**Results**   Explain   Describe   Saved SQL   History

THE_OUTPUT
100,Steven,King,SKING,515.123.4567,AD_PRES,,17-JUN-87,24000,,90
101,Neena,Kochhar,NKOCHHAR,515.123.4568,AD_VP,100,21-SEP-89,17000,,90
102,Lex,De Haan,LDEHAAN,515.123.4569,AD_VP,100,13-JAN-93,17000,,90
103,Alexander,Hunold,AHUNOLD,590.423.4567,IT_PROG,102,03-JAN-90,9000,,60
104,Bruce,Ernst,BERNST,590.423.4568,IT_PROG,103,21-MAY-91,6000,,60
105,David,Austin,DAUSTIN,590.423.4569,IT_PROG,103,25-JUN-97,4800,,60
106,Valli,Pataballa,VPATABAL,590.423.4560,IT_PROG,103,05-FEB-98,4800,,60
107,Diana,Lorentz,DLORENTZ,590.423.5567,IT_PROG,103,07-FEB-99,4200,,60
108,Nancy,Greenberg,NGREENBE,515.124.4569,FI_MGR,101,17-AUG-94,12000,,100
109,Daniel,Faviet,DFAVIET,515.124.4169,FI_ACCOUNT,108,16-AUG-94,9000,,100

More than 10 rows available. Increase rows selector to view more rows.

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

Submitted by-

**MD. SOROWAR MAHABUB RABBY**

Matric ID: **C201032**, Section: **3AM**

Department of CSE (Computer Science and Engineering)