
UNIVERSITY OF
SINDH

# Assignment Of

## ITEC-515 DB Administration & Management

## Practice Task 1 & 2

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# Lab Practice 1 – Database Systems

**Practice Question 1**
**Show the structure of the DEPARTMENTS table AND Select all data from the table.**

**See output below**

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

| DEPARTMENT_ID | DEPARTMENT_NAME | MANAGER_ID | LOCATION_ID |
|---|---|---|---|
| 10 | Administration | 200 | 1700 |
| 20 | Marketing | 201 | 1800 |
| 50 | Shipping | 124 | 1500 |
| 60 | IT | 103 | 1400 |
| 80 | Sales | 149 | 2500 |
| 90 | Executive | 100 | 1700 |
| 110 | Accounting | 205 | 1700 |
| 190 | Contracting | | 1700 |

8 rows selected.

**Answer:**

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

**Practice Question 2**

**(A) Show the structure of the EMPLOYEES table.**
**(B) Create a query to display the last name, job code, hire date, and employee number for each employee, with employee number appearing first. Provide an alias STARTDATE for the HIRE_DATE column.**

**See output below**

| Name | Null? | Type |
|---|---|---|
| EMPLOYEE_ID | NOT NULL | NUMBER(6) |
| FIRST_NAME | | VARCHAR2(20) |
| LAST_NAME | NOT NULL | VARCHAR2(25) |
| EMAIL | NOT NULL | VARCHAR2(25) |
| PHONE_NUMBER | | VARCHAR2(20) |
| HIRE_DATE | NOT NULL | DATE |
| JOB_ID | NOT NULL | VARCHAR2(10) |
| SALARY | | NUMBER(8,2) |
| COMMISSION_PCT | | NUMBER(2,2) |
| MANAGER_ID | | NUMBER(6) |
| DEPARTMENT_ID | | NUMBER(4) |

| 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 |
| 107 | Lorentz | IT_PROG | 07-FEB-99 |
| 124 | Mourgos | ST_MAN | 16-NOV-99 |
| 141 | Rajs | ST_CLERK | 17-OCT-95 |
| 142 | Davies | ST_CLERK | 29-JAN-97 |
| 143 | Matos | ST_CLERK | 15-MAR-98 |
| 144 | Vargas | ST_CLERK | 09-JUL-98 |
| 149 | Zlotkey | SA_MAN | 29-JAN-00 |
| 174 | Abel | SA_REP | 11-MAY-96 |
| 176 | Taylor | SA_REP | 24-MAR-98 |

**Answer:**

**DESCRIBE employees**

**SELECT employee_id, last_name, job_id, hire_date " STARTDATE"**

**FROM employees;**

**Practice Question 3**

**Create a query to display unique job codes from the EMPLOYEES table.**

**See output below**

| JOB_ID |
|---|
| AC_ACCOUNT |
| AC_MGR |
| AD_ASST |
| AD_PRES |
| AD_VP |
| IT_PROG |
| MK_MAN |
| MK_REP |
| SA_MAN |
| SA_REP |
| ST_CLERK |
| ST_MAN |

12 rows selected.

**Answer:**

**SELECT DISTINCT job_id**

**FROM employees;**

**Practice Question 4**

**Show all employees data and show data under Column heading as Emp #, Employee, Job, and Hire Date, respectively.**

**See output below**

| 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 |
| 107 | Lorentz | IT_PROG | 07-FEB-99 |
| 124 | Mourgos | ST_MAN | 16-NOV-99 |
| 141 | Rajs | ST_CLERK | 17-OCT-95 |
| 142 | Davies | ST_CLERK | 29-JAN-97 |
| 143 | Matos | ST_CLERK | 15-MAR-98 |
| 144 | Vargas | ST_CLERK | 09-JUL-98 |

**Answer:**

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

**Practice Question 5**

**Display the last name concatenated with the job ID, separated by a comma and space, and name the column Employee and Title.**

**See output below**

| Employee and Title |
|---|
| King, AD_PRES |
| Kochhar, AD_VP |
| De Haan, AD_VP |
| Hunold, IT_PROG |
| Ernst, IT_PROG |
| Lorentz, IT_PROG |
| Mourgos, ST_MAN |
| Rajs, ST_CLERK |
| Davies, ST_CLERK |

**Answer:**

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

**Practice Question 6**

**Create a query to display all the data from the EMPLOYEES table. Separate each column by a comma. Name the column THE_OUTPUT.**

**See output below**

| 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 |
| 107,Diana,Lorentz,DLORENTZ,590.423.5567,IT_PROG,103,07-FEB-99,4200,,60 |
| 124,Kevin,Mourgos,KMOURGOS,650.123.5234,ST_MAN,100,16-NOV-99,5800,,50 |
| 141,Trenna,Rajs,TRAJS,650.121.8009,ST_CLERK,124,17-OCT-95,3500,,50 |
| 142,Curtis,Davies,CDAVIES,650.121.2994,ST_CLERK,124,29-JAN-97,3100,,50 |
| 143,Randall,Matos,RMATOS,650.121.2874,ST_CLERK,124,15-MAR-98,2600,,50 |
| 144,Peter,Vargas,PVARGAS,650.121.2004,ST_CLERK,124,09-JUL-98,2500,,50 |

**Answers:**

```
SELECT employee_id || ',' || first_name || ',' || last_name
|| ',' || email || ',' || phone_number || ','|| job_ id
|| ',' || manager_id || ',' || hire_date || ',' ||
salary || ',' || commission_pct || ',' || department _id
THE_OUTPUT
FROM employees;
```



## Lab Practice 2 – Database Systems

**Practice Question 1**

**Create a query to display the last name and salary of employees earning more than 12,000.**

**See output below**

| LAST_NAME | SALARY |
|---|---|
| King | 24000 |
| Kochhar | 17000 |
| De Haan | 17000 |
| Hartstein | 13000 |

**Answer:**

```
SELECT last_name, salary
FROM employees
WHERE salary > 12000;
```

---

**Practice Question 2**

**Create a query to display the employee last name and department number for employee number**

**176.**

**See output below**

| LAST_NAME | DEPARTMENT_ID |
|---|---|
| Taylor | 80 |

**Answer:**

```
SELECT last_name, department_id
FROM employees
WHERE employee_id = 176;
```

**Practice Question 3**

**Display the last name and salary for all employees whose salary is not in the range of 5,000 and 12,000.**

**See output below**

| LAST_NAME | SALARY |
|---|---|
| King | 24000 |
| Kochhar | 17000 |
| De Haan | 17000 |
| Lorentz | 4200 |
| Rajs | 3500 |
| Davies | 3100 |
| Matos | 2600 |
| Vargas | 2500 |
| Whalen | 4400 |
| Hartstein | 13000 |

10 rows selected.

**Answer:**

```
SELECT last_name, salary

FROM employees

WHERE salary NOT BETWEEN 5000 AND 12000;
```

---

**Practice Question 4**

**Display the employee last name, job ID, and start date of employees hired between 02-2-2002, and 02-02-2005.**

**See output below**

| LAST_NAME | JOB_ID | HIRE_DATE |
|---|---|---|
| Matos | ST_CLERK | 15-MAR-98 |
| Taylor | SA_REP | 24-MAR-98 |

**Answer:**

```
SELECT last_name, job_id, hire_date

FROM employees

WHERE hire_date BETWEEN '02-02-2002' AND '02-02-2005';
```

---

**Practice Question 5**

**Display the last name and department number of all employees in departments 20 and 50 in alphabetical order by name.**

**See output below**

| LAST_NAME | DEPARTMENT_ID |
|---|---|
| Davies | 50 |
| Fay | 20 |
| Hartstein | 20 |
| Matos | 50 |
| Mourgos | 50 |
| Rajs | 50 |
| Vargas | 50 |

7 rows selected.

**Answer:**

```
SELECT last_name,department_id
FROM employees
WHERE department_id IN (20, 50)
Order by last_name;
```

---

**Practice Question 6**

**List the last name and salary of employees who earn between 5,000 and 12,000, and are in department 20 or 50.**

**See output below**

| Employee | Monthly Salary |
|---|---|
| Mourgos | 5800 |
| Fay | 6000 |

**Answer:**

```
SELECT last_name "Employee", salary "Monthly Salary"
FROM employees
WHERE salary BETWEEN 5000 AND 12000
AND department_id IN (20, 50);
```

---

**Practice Question 7**

**Display the last name and hire date of every employee who was hired in 2002.**

**See output below**

| LAST_NAME | HIRE_DATE |
|---|---|
| Higgins | 07-JUN-94 |
| Gietz | 07-JUN-94 |

**Answer:**

```
SELECT last_name, hire_date
FROM employees
WHERE hire_date LIKE '%94';
```

---

**Practice Question 8**

**Display the last name and job title of all employees who do not have a manager.**

**See output below**

| LAST_NAME | JOB_ID |
|---|---|
| King | AD_PRES |

**Answer:**

**SELECT last_name, job_id**

**FROM employees**

**WHERE manager_id IS NULL;**

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**Practice Question 9**

**Display the last name, salary and commission of all employees who are earning commission**

**See output below**

| LAST_NAME | SALARY | COMMISSION_PCT |
|---|---|---|
| Abel | 11000 | .3 |
| Zlotkey | 10500 | .2 |
| Taylor | 8600 | .2 |
| Grant | 7000 | .15 |

**Answer:**

**SELECT last_name, salary, commission_pct**

**FROM employees**

**WHERE commission_pct IS NOT NULL**

**ORDER BY salary DESC, commission_pct DESC;**

---

**Practice Question 10**

**Display the last names of all employees where the third letter of the name is "*a*".**

**See output below**

| LAST_NAME |
|---|
| Grant |
| Whalen |

**Answer:**

```
SELECT last_name
FROM employees
WHERE last_name LIKE '__a%';
```

---

**Practice Question 11**

**Display the last name of all employees who have letter "*a*" and "*e*" in their last name.**

**See output below**

| LAST_NAME |
|---|
| De Haan |
| Davies |
| Whalen |
| Hartstein |

**Answer:**

```
SELECT last_name
FROM employees
```

**WHERE last_name LIKE '%a%'**

**AND last_name LIKE '%e%';**

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# THE END