

Database Systems

LAB#01



23K-2001

BCS-5J

Q1:

SELECT * FROM JOBS;

Oracle SQL Developer : hr

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Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - REGIONS
- Views
- Editing Views
- Indexes
- Packages
- Procedures
- Functions

Worksheet Query Builder

SELECT * FROM JOBS;

Query Result x

All Rows Fetched: 19 in 0.009 seconds

	JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
1	AD_PRES	President	20080	40000
2	AD_VP	Administration Vice President	15000	30000
3	AD_ASST	Administration Assistant	3000	6000
4	FI_MGR	Finance Manager	8200	16000
5	FI_ACCOUNT	Accountant	4200	9000
6	AC_MGR	Accounting Manager	8200	16000
7	AC_ACCOUNT	Public Accountant	4200	9000
8	SA_MAN	Sales Manager	10000	20080
9	SA_REP	Sales Representative	6000	12008
10	PU_MAN	Purchasing Manager	8000	15000
11	PU_CLERK	Purchasing Clerk	2500	5500
12	ST_MAN	Stock Manager	5500	8500
13	ST_CLERK	Stock Clerk	3000	5000

Q2:

SELECT MIN_SALARY , MAX_SALARY FROM JOBS WHERE JOB_TITLE='President';

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

- hr
 - Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - REGIONS
 - Views
 - Editing Views
 - Indexes
 - Packages
 - Procedures
 - Functions

Worksheet Query Builder

```
SELECT MIN_SALARY , MAX_SALARY FROM JOBS WHERE JOB_TITLE='President';
```

Query Result x

All Rows Fetched: 1 in 0.004 seconds

	MIN_SALARY	MAX_SALARY
1	20080	40000

Q3:

SELECT * FROM EMPLOYEES WHERE SALARY >= 20000;

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - REGIONS
- Views
- Editing Views
- Indexes
- Packages
- Procedures
- Functions

Worksheet

Query Builder

```
SELECT * FROM EMPLOYEES WHERE SALARY >= 20000;
```

Query Result

All Rows Fetched: 1 in 0.002 seconds

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID	
1	100	Steven	King	SKING	515.123.4567	17-JUN-03	AD_PRES	24000	(null)	(null)	90

Click on an identifier with the Control key down to perform "Go to Declaration"

Line 1 Column 47 | Insert

Q4:

SELECT JOB_TITLE, MAX_SALARY FROM JOBS WHERE MAX_SALARY >= 15000;

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - REGIONS
- Views
- Editing Views
- Indexes
- Packages
- Procedures
- Functions

Reports

- All Reports
- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

Welcome Page Muzammil hr

Worksheet Query Builder

```
SELECT JOB_TITLE, MAX_SALARY FROM JOBS WHERE MAX_SALARY >= 15000;
```

Query Result x

All Rows Fetched: 7 in 0.003 seconds

	JOB_TITLE	MAX_SALARY
1	President	40000
2	Administration Vice President	30000
3	Finance Manager	16000
4	Accounting Manager	16000
5	Sales Manager	20080
6	Purchasing Manager	15000
7	Marketing Manager	15000

Click on an identifier with the Control key down to perform "Go to Declaration"

Q5:

SELECT EMPLOYEE_ID , FIRST_NAME , LAST_NAME , DEPARTMENT_ID FROM
EMPLOYEES WHERE LAST_NAME='Snares';

The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left lists the 'hr' schema with various tables and views. The 'Worksheet' pane contains the SQL query: `SELECT EMPLOYEE_ID , FIRST_NAME , LAST_NAME , DEPARTMENT_ID FROM EMPLOYEES WHERE LAST_NAME='Snares';`. The 'Query Result' pane at the bottom shows 'All Rows Fetched: 0 in 0.004 seconds' and a table header with columns: EMPLOYEE_ID, FIRST_NAME, LAST_NAME, and DEPARTMENT_ID.

The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left lists the 'hr' schema with various tables and views. The 'Worksheet' pane contains the SQL query: `SELECT EMPLOYEE_ID , FIRST_NAME , LAST_NAME , DEPARTMENT_ID FROM EMPLOYEES WHERE LAST_NAME='Chen';`. The 'Query Result' pane at the bottom shows 'All Rows Fetched: 1 in 0.003 seconds' and a table with one row of data.

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	DEPARTMENT_ID
1	110 John	Chen	100

Q6:

SELECT EMPLOYEE_ID , FIRST_NAME , LAST_NAME , DEPARTMENT_ID FROM
EMPLOYEES WHERE DEPARTMENT_ID=57;

The screenshot shows the Oracle SQL Developer interface. The 'Connections' pane on the left lists the 'hr' schema with various tables and views. The 'Worksheet' pane contains the SQL query: `SELECT EMPLOYEE_ID , FIRST_NAME , LAST_NAME , DEPARTMENT_ID FROM EMPLOYEES WHERE DEPARTMENT_ID=57;`. The 'Query Results' pane at the bottom shows the execution status: 'All Rows Fetched: 0 in 0.003 seconds'. The column headers are partially visible: EMPLOYEE_ID, FIRST_NAME, LAST_NAME, and DEPARTMENT_ID.

The screenshot shows the Oracle SQL Developer interface with the same 'hr' schema. The 'Worksheet' pane contains the SQL query: `SELECT EMPLOYEE_ID , FIRST_NAME , LAST_NAME , DEPARTMENT_ID FROM EMPLOYEES WHERE DEPARTMENT_ID=100;`. The 'Query Results' pane shows the execution status: 'All Rows Fetched: 6 in 0.001 seconds'. The results are displayed in a table with the following data:

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	DEPARTMENT_ID
1	108 Nancy	Greenberg	100
2	109 Daniel	Faviet	100
3	110 John	Chen	100
4	111 Ismael	Sciarra	100
5	112 Jose Manuel	Urman	100
6	113 Luis	Popp	100

Q7:

SELECT PHONE_NUMBER FROM EMPLOYEES WHERE DEPARTMENT_ID=80 AND
MANAGER_ID=100;

Oracle SQL Developer : hr

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Connections

- hr
 - Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - REGIONS
 - Views
 - Editing Views
 - Indexes
 - Packages
 - Procedures
 - Functions

Worksheet

Query Builder

```
SELECT PHONE_NUMBER FROM EMPLOYEES WHERE DEPARTMENT_ID=80 AND MANAGER_ID=100;
```

Reports

- All Reports
 - Analytic View Reports
 - Data Dictionary Reports
 - Data Modeler Reports
 - OLAP Reports
 - TimesTen Reports
 - User Defined Reports

Query Result

All Rows Fetched: 5 in 0.004 seconds

	PHONE_NUMBER
1	011.44.1344.429268
2	011.44.1344.467268
3	011.44.1344.429278
4	011.44.1344.619268
5	011.44.1344.429018

Q8:

SELECT * FROM EMPLOYEES WHERE FIRST_NAME IN('John', 'NEENA' , 'Lency');

The screenshot displays the Oracle SQL Developer interface. The 'Connections' pane on the left shows the 'hr' schema with various tables and views. The 'Query Builder' pane in the center contains the SQL query: `SELECT * FROM EMPLOYEES WHERE FIRST_NAME IN('John', 'NEENA' , 'Lency');`. The 'Query Result' pane at the bottom shows the results of the query, which are 3 rows of employee data. The status bar at the bottom indicates 'Line 1 Column 72 | Insert | Modified'.

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
1	John	Chen	JCHEN	515.124.4269	28-SEP-05	FI_ACCOUNT	8200	(null)	108	100
2	John	Seo	JSEO	650.121.2019	12-FEB-06	ST_CLERK	2700	(null)	123	50
3	John	Russell	JRUSSEL	011.44.1344.429268	01-OCT-04	SA_MAN	14000	0.4	100	80

Q9:

SELECT CITY FROM LOCATIONS WHERE COUNTRY_ID='IT';

The screenshot displays the Oracle SQL Developer interface. The main window is titled 'Oracle SQL Developer : hr'. The menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The toolbar contains various icons for file operations, navigation, and execution. The 'Connections' pane on the left shows a tree structure for the 'hr' schema, including Tables (Filtered), Views, Editing Views, Indexes, Packages, Procedures, and Functions. The 'Reports' pane on the left shows a list of report types. The 'Worksheet' pane on the right contains the SQL query: `SELECT CITY FROM LOCATIONS WHERE COUNTRY_ID='IT';`. The 'Query Result' pane at the bottom right shows the execution results: 'All Rows Fetched: 2 in 0.008 seconds'. The results are displayed in a table with two rows: 1 Roma and 2 Venice.

	CITY
1	Roma
2	Venice

Q10:

SELECT CITY FROM LOCATIONS WHERE COUNTRY_ID NOT IN('IN' , 'CH');

The screenshot displays the Oracle SQL Developer interface. The 'Connections' pane on the left shows the 'hr' schema with a tree view of tables including COUNTRIES, DEPARTMENTS, EMPLOYEES, JOB_HISTORY, JOBS, LOCATIONS, REGIONS, Views, Editing Views, and Indexes. The 'LOCATIONS' table is expanded, showing columns: LOCATION_ID, STREET_ADDRESS, POSTAL_CODE, CITY, STATE_PROVINCE, and COUNTRY_ID. The main workspace shows a SQL query in the 'Query Builder' tab: `SELECT CITY FROM LOCATIONS WHERE COUNTRY_ID NOT IN('IN' , 'CH');`. The 'Query Result' pane at the bottom shows the execution results, indicating 'All Rows Fetched: 20 in 0.007 seconds'. The results are displayed in a table with a single column 'CITY' and 20 rows of city names.

CITY
1 Sydney
2 Sao Paulo
3 Toronto
4 Whitehorse
5 Beijing
6 Munich
7 Roma
8 Venice
9 Tokyo
10 Hiroshima
11 Mexico City
12 Utrecht
13 Singapore
14 London
15 Oxford
16 Stretford
17 Southlake
18 South San Francisco
19 South Brunswick
20 Seattle

Q11:

SELECT JOB_TITLE , MIN_SALARY FROM JOBS WHERE MIN_SALARY > 8000 AND
MIN_SALARY < 15000;

The screenshot displays the Oracle SQL Developer interface. The main window shows a query in the SQL Worksheet:

```
SELECT JOB_TITLE , MIN_SALARY FROM JOBS WHERE MIN_SALARY > 8000 AND MIN_SALARY < 15000;
```

The Query Result window shows the following data:

	JOB_TITLE	MIN_SALARY
1	Finance Manager	8200
2	Accounting Manager	8200
3	Sales Manager	10000
4	Marketing Manager	9000

The left sidebar shows the database structure for the 'hr' schema, including tables like COUNTRIES, DEPARTMENTS, EMPLOYEES, JOB_HISTORY, JOBS, and LOCATIONS. The bottom section shows the Reports pane with various report categories.

Q12:

SELECT PHONE_NUMBER, DEPARTMENT_ID , JOB_ID FROM EMPLOYEES WHERE
DEPARTMENT_ID=90 AND NOT JOB_ID='IT_PROG';

Oracle SQL Developer : hr

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Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - LOCATION_ID
 - STREET_ADDRESS
 - POSTAL_CODE
 - CITY
 - STATE_PROVINCE
 - COUNTRY_ID
 - REGIONS
- Views
- Editing Views
- Indexes

Worksheet

Query Builder

```
SELECT PHONE_NUMBER, DEPARTMENT_ID , JOB_ID FROM EMPLOYEES WHERE DEPARTMENT_ID=90 AND NOT JOB_ID='IT_PROG';
```

Query Result x

SQL | All Rows Fetched: 3 in 0.004 seconds

	PHONE_NUMBER	DEPARTMENT_ID	JOB_ID
1	515.123.4567	90	AD_PRES
2	515.123.4568	90	AD_VP
3	515.123.4569	90	AD_VP

Reports

All Reports

- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

Q13:

SELECT EMPLOYEE_ID , FIRST_NAME, HIRE_DATE FROM EMPLOYEES WHERE
HIRE_DATE > '12-DEC-07';

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - LOCATION_ID
 - STREET_ADDRESS
 - POSTAL_CODE
 - CITY
 - STATE_PROVINCE
 - COUNTRY_ID
 - REGIONS
- Views
- Editing Views
- Indexes

Reports

- All Reports
- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

Welcome Page Muzammil hr

Worksheet Query Builder

```
SELECT EMPLOYEE_ID , FIRST_NAME, HIRE_DATE FROM EMPLOYEES WHERE HIRE_DATE > '12-DEC-07';
```

Query Result x

SQL | All Rows Fetched: 12 in 0.003 seconds

	EMPLOYEE_ID	FIRST_NAME	HIRE_DATE
1	128	Steven	08-MAR-08
2	136	Hazel	06-FEB-08
3	149	Eleni	29-JAN-08
4	164	Mattea	24-JAN-08
5	165	David	23-FEB-08
6	166	Sundar	24-MAR-08
7	167	Amit	21-APR-08
8	173	Sundita	21-APR-08
9	179	Charles	04-JAN-08
10	183	Girard	03-FEB-08
11	191	Randall	19-DEC-07
12	199	Douglas	13-JAN-08

Q14:

SELECT EMPLOYEE_ID, FIRST_NAME, HIRE_DATE , DEPARTMENT_ID FROM
EMPLOYEES WHERE HIRE_DATE > '12-DEC-07' AND DEPARTMENT_ID=100;

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

- hr
 - Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - LOCATION_ID
 - STREET_ADDRESS
 - POSTAL_CODE
 - CITY
 - STATE_PROVINCE
 - COUNTRY_ID
 - REGIONS
 - Views
 - Editing Views
 - Indexes

Reports

- All Reports
- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

Welcome Page Muzammil hr

Worksheet Query Builder

```
SELECT EMPLOYEE_ID, FIRST_NAME, HIRE_DATE , DEPARTMENT_ID FROM EMPLOYEES WHERE HIRE_DATE > '12-DEC-07' AND DEPARTMENT_ID=100;
```

Query Result x

All Rows Fetched: 0 in 0.002 seconds

EMPLOYEE...	FIRST_NA...	HIRE_DATE	DEPARTM...
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Q15:

SELECT EMPLOYEE_ID, FIRST_NAME, HIRE_DATE , DEPARTMENT_ID FROM
EMPLOYEES WHERE HIRE_DATE > '12-DEC-07' AND NOT DEPARTMENT_ID=100;

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

hr

Tables (Filtered)

- COUNTRIES
- DEPARTMENTS
- EMPLOYEES
- JOB_HISTORY
- JOBS
- LOCATIONS
 - LOCATION_ID
 - STREET_ADDRESS
 - POSTAL_CODE
 - CITY
 - STATE_PROVINCE
 - COUNTRY_ID
- REGIONS

Views

Editing Views

Indexes

Reports

- All Reports
- Analytic View Reports
- Data Dictionary Reports
- Data Modeler Reports
- OLAP Reports
- TimesTen Reports
- User Defined Reports

Welcome Page Muzammil hr

Worksheet

Query Builder

SELECT EMPLOYEE_ID, FIRST_NAME, HIRE_DATE , DEPARTMENT_ID FROM EMPLOYEES WHERE HIRE_DATE > '12-DEC-07' AND NOT DEPARTMENT_ID=100;

Query Result

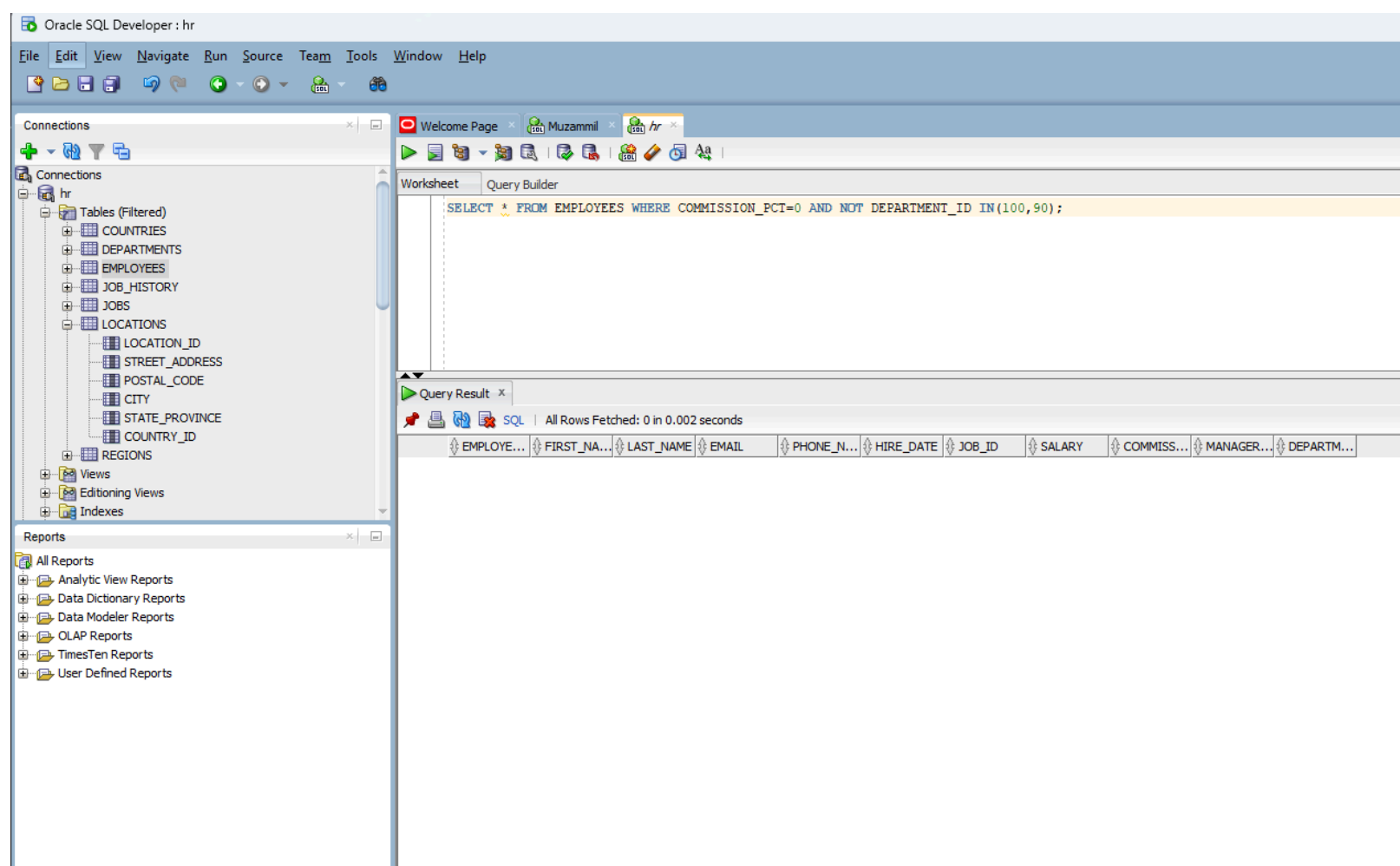
All Rows Fetched: 12 in 0.003 seconds

	EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID
1	128	Steven	08-MAR-08	50
2	136	Hazel	06-FEB-08	50
3	149	Eleni	29-JAN-08	80
4	164	Mattea	24-JAN-08	80
5	165	David	23-FEB-08	80
6	166	Sundar	24-MAR-08	80
7	167	Amit	21-APR-08	80
8	173	Sundita	21-APR-08	80
9	179	Charles	04-JAN-08	80
10	183	Girard	03-FEB-08	50
11	191	Randall	19-DEC-07	50
12	199	Douglas	13-JAN-08	50

| Line 1 Column 130 | Insert | M

Q16:

```
SELECT * FROM EMPLOYEES WHERE COMMISSION_PCT=0 AND NOT DEPARTMENT_ID  
IN(100,90);
```



Q17:

SELECT * FROM EMPLOYEES
WHERE HIRE_DATE BETWEEN DATE '2010-01-01' AND DATE '2010-12-31';

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - LOCATION_ID
 - STREET_ADDRESS
 - POSTAL_CODE
 - CITY
 - STATE_PROVINCE
 - COUNTRY_ID
 - REGIONS
- Views
- Editing Views
- Indexes

Query Result x

SQL | All Rows Fetched: 0 in 0.001 seconds

EMPLOYEE...	FIRST_NA...	LAST_NAME	EMAIL	PHONE_N...	HIRE_DATE	JOB_ID
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Q18:

SELECT JOB_TITLE , MIN_SALARY FROM JOBS WHERE MIN_SALARY > 8000 AND
MIN_SALARY < 15000;

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Connections

hr

- Tables (Filtered)
 - COUNTRIES
 - DEPARTMENTS
 - EMPLOYEES
 - JOB_HISTORY
 - JOBS
 - LOCATIONS
 - LOCATION_ID
 - STREET_ADDRESS
 - POSTAL_CODE
 - CITY
 - STATE_PROVINCE
 - COUNTRY_ID
 - REGIONS
- Views
- Editing Views
- Indexes

Reports

- All Reports
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Welcome Page Muzammil hr

Worksheet Query Builder

```
SELECT JOB_TITLE , MIN_SALARY FROM JOBS WHERE MIN_SALARY > 8000 AND MIN_SALARY < 15000;
```

Query Result x

SQL | All Rows Fetched: 4 in 0.003 seconds

	JOB_TITLE	MIN_SALARY
1	Finance Manager	8200
2	Accounting Manager	8200
3	Sales Manager	10000
4	Marketing Manager	9000

Q19:

```
SELECT FIRST_NAME, LAST_NAME, JOB_ID  
FROM EMPLOYEES WHERE EMPLOYEE_ID BETWEEN 101 AND 149 AND  
DEPARTMENT_ID BETWEEN 91 AND 99;
```

The screenshot displays the Oracle SQL Developer interface. The title bar reads "Oracle SQL Developer : hr". The menu bar includes File, Edit, View, Navigate, Run, Source, Team, Tools, Window, and Help. The toolbar contains icons for file operations, navigation, and execution. The workspace has tabs for "Welcome Page", "Muzammil", "hr", and "EMPLOYEES". The "Query Builder" tab is active, showing the following SQL query:

```
SELECT FIRST_NAME, LAST_NAME, JOB_ID  
FROM EMPLOYEES WHERE EMPLOYEE_ID BETWEEN 101 AND 149 AND DEPARTMENT_ID BETWEEN 91 AND 99;
```

Below the query editor, the "Query Result" tab is active, displaying the execution status: "All Rows Fetched: 0 in 0.001 seconds". The result grid shows the following column headers:

FIRST_NAME	LAST_NAME	JOB_ID
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Q20:

```
SELECT SALARY , COMMISSION_PCT , (SALARY+COMMISSION_PCT*SALARY) AS  
TOTAL_SALARY FROM EMPLOYEES;
```

Oracle SQL Developer : hr

File Edit View Navigate Run Source Team Tools Window Help

Welcome Page Muzammil hr EMPLOYEES

Worksheet Query Builder

```
SELECT SALARY , COMMISSION_PCT , (SALARY+COMMISSION_PCT*SALARY) AS TOTAL_SALARY FROM EMPLOYEES;
```

Query Result x

SQL | Fetched 100 rows in 0.006 seconds

	SALARY	COMMISSION_PCT	TOTAL_SALARY
34	3300	(null)	(null)
35	2900	(null)	(null)
36	2400	(null)	(null)
37	2200	(null)	(null)
38	3600	(null)	(null)
39	3200	(null)	(null)
40	2700	(null)	(null)
41	2500	(null)	(null)
42	3500	(null)	(null)
43	3100	(null)	(null)
44	2600	(null)	(null)
45	2500	(null)	(null)
46	14000	0.4	19600
47	13500	0.3	17550
48	12000	0.3	15600
49	11000	0.3	14300
50	10500	0.2	12600
51	10000	0.3	13000
52	9500	0.25	11875
53	9000	0.25	11250
54	8000	0.2	9600
55	7500	0.2	9000
56	7000	0.15	8050