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SAP ID: 53937

SECTION: BS DATA SCIENCE
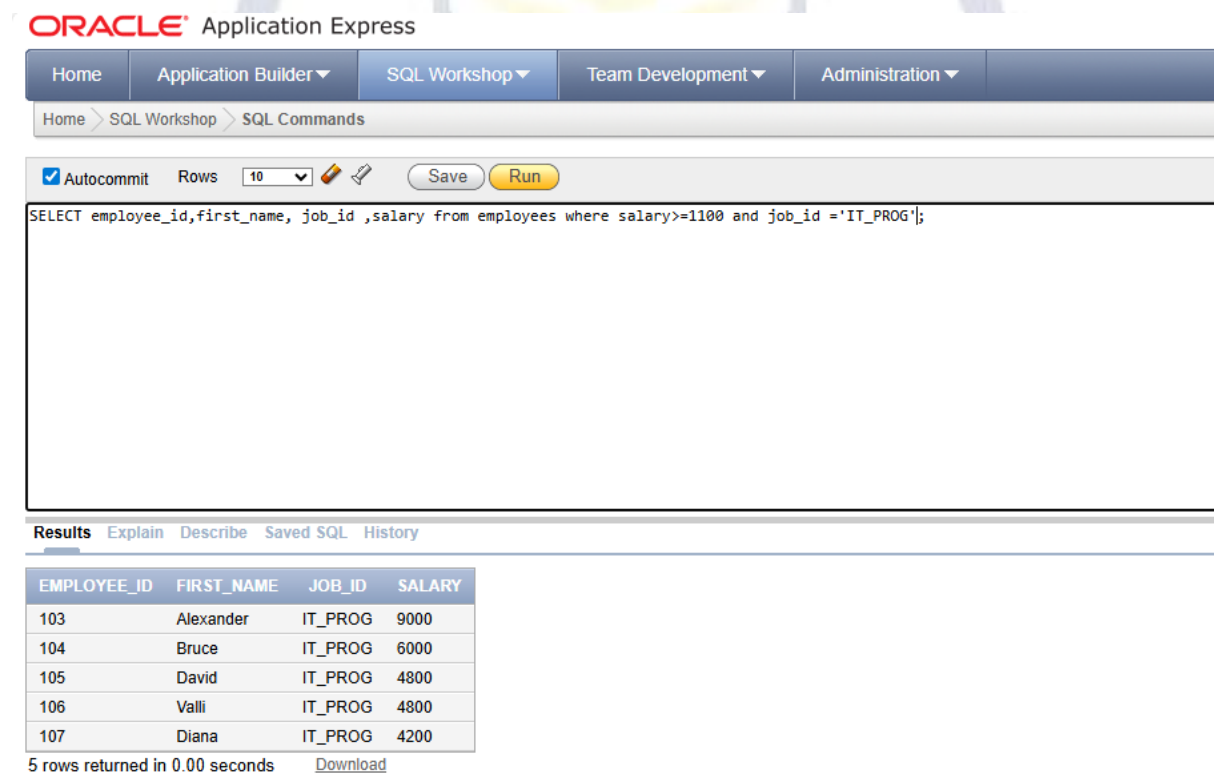
LAB: DATABASE

<div align="center">

LAB 2

</div>

LAB TASKS:

Q1: You are required to read the lab manual and implement all the queries mentioned in the manual.

  ➢ This query retrieves the ID, name, job, and salary of employees who earn at least 11,000 and work as IT Programme

➤ This query displays the ID, name, job, and salary for all employees whose salary is 1,100 or higher.

☑ Autocommit   Rows   [10 ▾] ✏ ✐   (Save) (Run)

```
SELECT employee_id,first_name, job_id ,salary from employees where salary>=1100 |
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	FIRST_NAME	JOB_ID	SALARY
100	Steven	AD_PRES	24000
101	Neena	AD_VP	17000
102	Lex	AD_VP	17000
103	Alexander	IT_PROG	9000
104	Bruce	IT_PROG	6000
105	David	IT_PROG	4800
106	Valli	IT_PROG	4800
107	Diana	IT_PROG	4200
108	Nancy	FI_MGR	12008
109	Daniel	FI_ACCOUNT	9000

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

10 rows returned in 0.01 seconds   Download

➢ This query displays the names, job titles, and salaries of all employees who are either 'ST_CLERK' or are 'IT_PROG' with a salary greater than 6,000.

☑ Autocommit   Rows   [10 ▾] ✐ ⟋   (Save) (Run)

SELECT first_name, job_id ,salary from employees where job_id='ST_CLERK' or job_id ='IT_PROG' and salary >6000;

Results Explain Describe Saved SQL History

FIRST_NAME	JOB_ID	SALARY
Alexander	IT_PROG	9000
Julia	ST_CLERK	3200
Irene	ST_CLERK	2700
James	ST_CLERK	2400
Steven	ST_CLERK	2200
Laura	ST_CLERK	3300
Mozhe	ST_CLERK	2800
James	ST_CLERK	2500
TJ	ST_CLERK	2100
Jason	ST_CLERK	3300

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

0 rows returned in 0.01 seconds   Download

➢ This query lists employee names, jobs, and department IDs, sorted from the oldest to newest hiring dates.

Autocommit   Rows   10 ▾   🧽 ✏️   Save   Run

```
SELECT first_name, job_id ,department_id,hire_date from employees order by hire_date asc ,first_name asc;
```

Results   Explain   Describe   Saved SQL   History

FIRST_NAME	JOB_ID	DEPARTMENT_ID	HIRE_DATE
Lex	AD_VP	90	01/13/2001
Hermann	PR_REP	70	06/07/2002
Shelley	AC_MGR	110	06/07/2002
Susan	HR_REP	40	06/07/2002
William	AC_ACCOUNT	110	06/07/2002
Daniel	FI_ACCOUNT	100	08/16/2002
Nancy	FI_MGR	100	08/17/2002
Den	PU_MAN	30	12/07/2002
Payam	ST_MAN	50	05/01/2003
Alexander	PU_CLERK	30	05/18/2003
More than 10 rows available. Increase rows selector to view more rows.			

10 rows returned in 0.00 seconds   Download

➢ This query calculates and displays each employee's ID, name, and total annual salary, sorted from the lowest to the highest yearly pay.

EMPLOYEE_ID	FIRST_NAME	ANNUALSALARY
132	TJ	25200
128	Steven	26400
136	Hazel	26400
135	Ki	28800
127	James	28800
119	Karen	30000
131	James	30000
140	Joshua	30000
144	Peter	30000
182	Martha	30000

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

10 rows returned in 0.01 seconds   Download

➢ This query combines the first and last names of each employee into a single column labelled "FULL_NAME" alongside their employee ID.

```
SELECT employee_id, first_name || ' ' || last_name AS full_name FROM employees;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	FULL_NAME
100	Steven King
101	Neena Kochhar
102	Lex De Haan
103	Alexander Hunold
104	Bruce Ernst
105	David Austin
106	Valli Pataballa
107	Diana Lorentz
108	Nancy Greenberg
109	Daniel Faviet
More than 10 rows available. Increase rows selector to view more rows.	

10 rows returned in 0.00 seconds   Download

➢ This query displays the employee ID and first name along with the total number of characters in each name.


```
SELECT employee_id, first_name, LENGTH(first_name) AS name_length FROM employees;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	FIRST_NAME	NAME_LENGTH
174	Ellen	5
166	Sundar	6
130	Mozhe	5
105	David	5
204	Hermann	7
116	Shelli	6
167	Amit	4
172	Elizabeth	9
192	Sarah	5
151	David	5

More than 10 rows available. Increase rows selector to view more rows.
10 rows returned in 0.01 seconds   Download

➢ This query identifies the numerical position of the letter 'a' within each employee's first name, displaying it alongside their ID and name.

☑ Autocommit   Rows [10 ▾] ✐ ✐   (Save) (Run)

```
SELECT employee_id, first_name, INSTR(first_name, 'a') AS position_of_a FROM employees;
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	FIRST_NAME	POSITION_OF_A
174	Ellen	0
166	Sundar	5
130	Mozhe	0
105	David	2
204	Hermann	5
116	Shelli	0
167	Amit	0
172	Elizabeth	5
192	Sarah	2
151	David	2

More than 10 rows available. Increase rows selector to view more rows.
10 rows returned in 0.01 seconds   Download

➤ This query adds asterisks to the left of each salary to ensure the total length of the "PADDED_SALARY" column is exactly 10 characters.
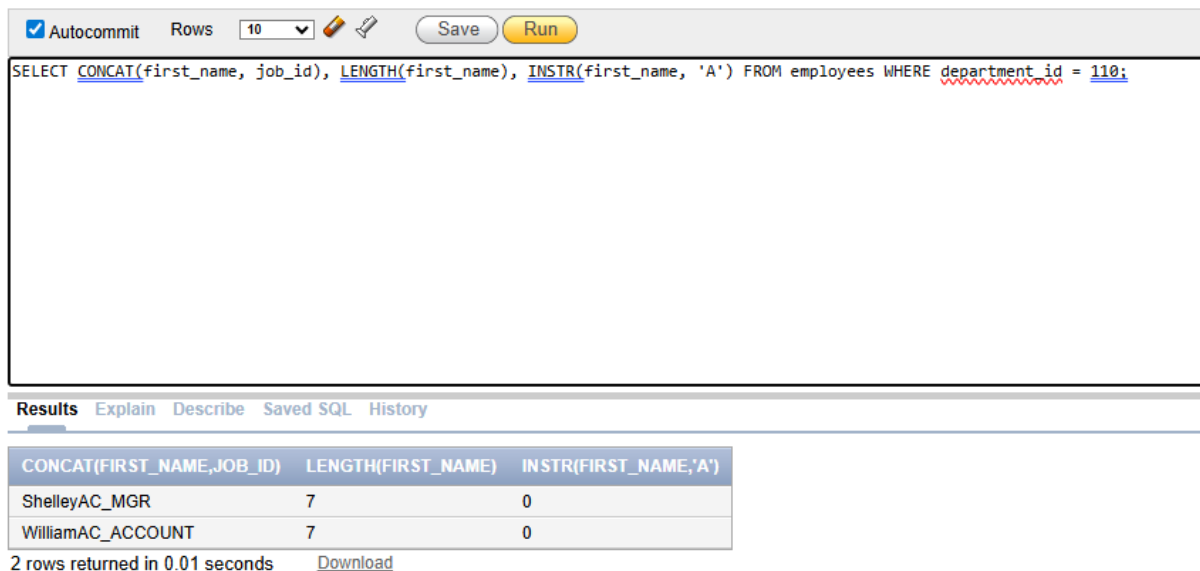
Autocommit ☑   Rows   [10 ▾] ✎ ✐   (Save) (Run)

```
SELECT employee_id, salary, LPAD(salary, 10, '*') AS padded_salary  FROM employees
```

Results Explain Describe Saved SQL History

EMPLOYEE_ID	SALARY	PADDED_SALARY
100	24000	*****24000
101	17000	*****17000
102	17000	*****17000
103	9000	******9000
104	6000	******6000
105	4800	******4800
106	4800	******4800
107	4200	******4200
108	12008	*****12008
109	9000	******9000

More than 10 rows available. Increase rows selector to view more rows.
10 rows returned in 0.00 seconds   Download

LAB PRACTICE QUERY

➢ This query joins the first name and job ID, calculates the name's length, and finds the position of the letter 'A' for employees in department 110.

☑ Autocommit   Rows 10 ▼

```
SELECT CONCAT(first_name, job_id), LENGTH(first_name), INSTR(first_name, 'A') FROM employees WHERE department_id = 110;
```

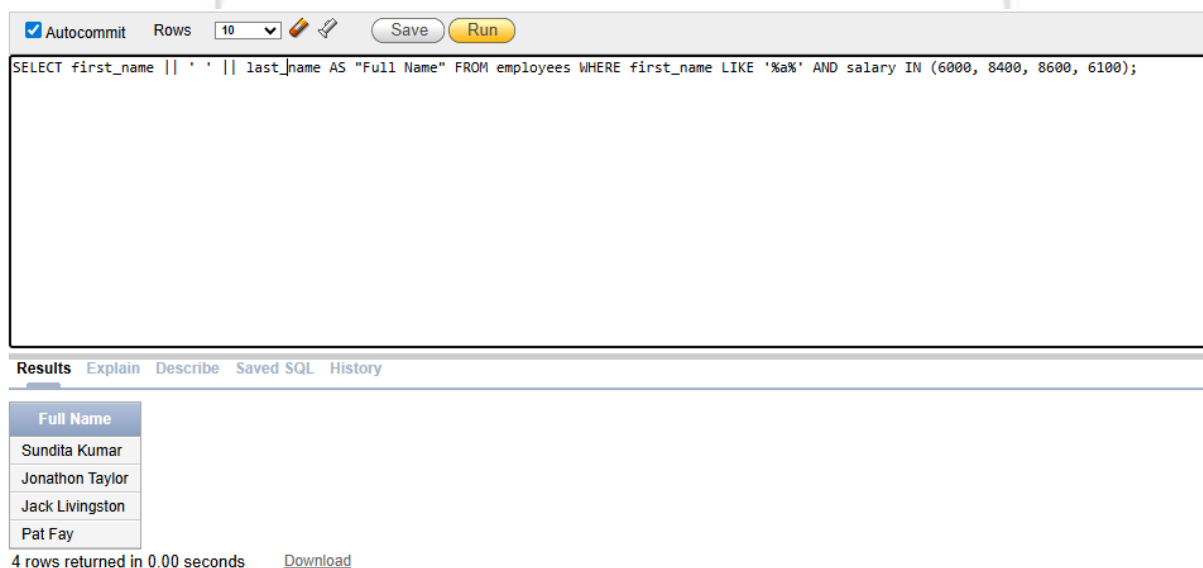**Results** Explain Describe Saved SQL History

CONCAT(FIRST_NAME,JOB_ID)	LENGTH(FIRST_NAME)	INSTR(FIRST_NAME,'A')
ShelleyAC_MGR	7	0
WilliamAC_ACCOUNT	7	0

2 rows returned in 0.01 seconds   Download

Q2: Write a query to display full name of that employee whose first name contains 'a' and salary is 6000, 8400, 8600 and 6100.

➢ This SQL query retrieves the full names of employees whose first names contain the letter 'a' and whose salaries match specifically 6000, 8400, 8600, or 6100.

☑ Autocommit   Rows 10 ▼

```
SELECT first_name || ' ' || last_name AS "Full Name" FROM employees WHERE first_name LIKE '%a%' AND salary IN (6000, 8400, 8600, 6100);
```

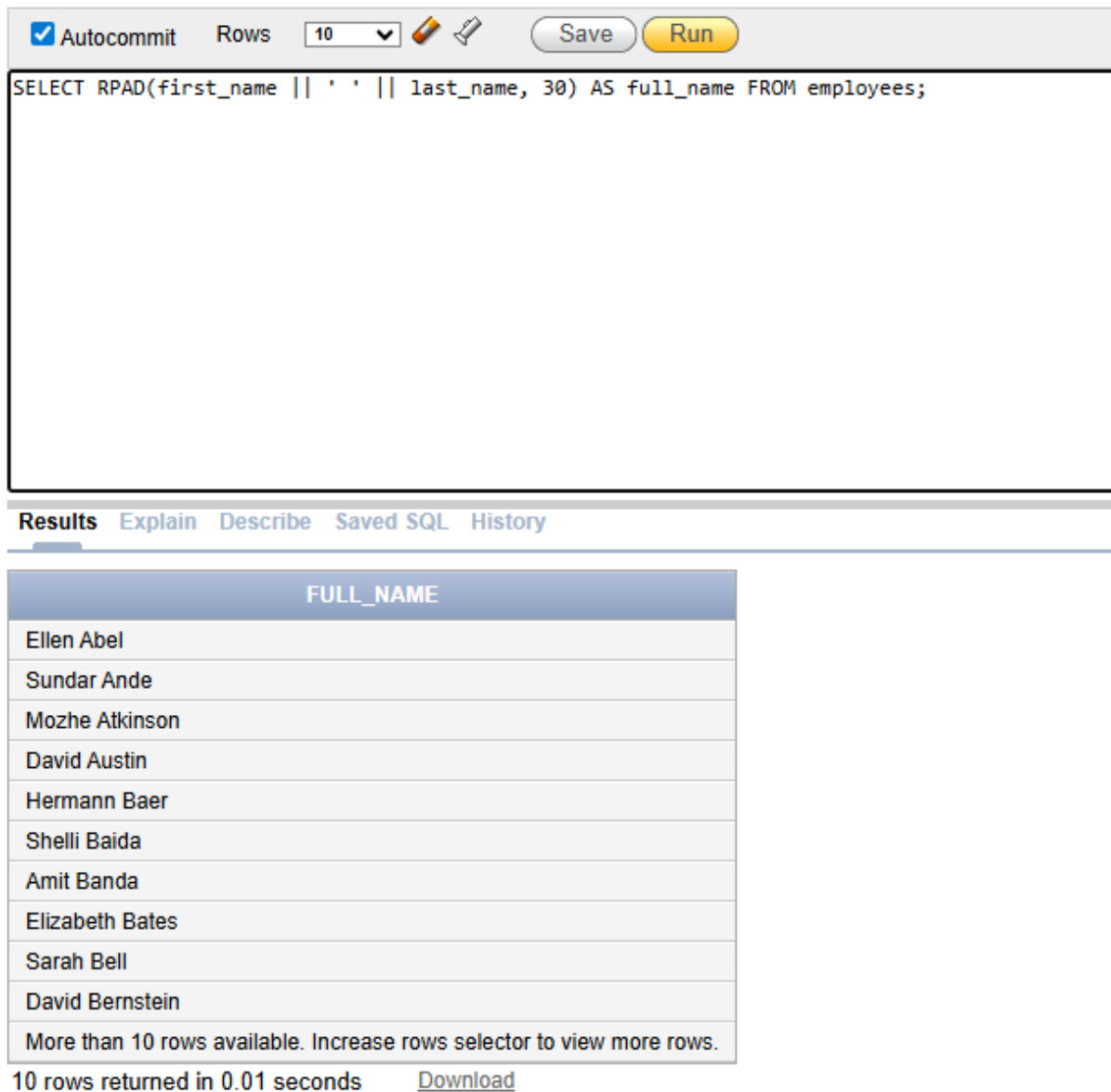**Results** Explain Describe Saved SQL History

Full Name
Sundita Kumar
Jonathon Taylor
Jack Livingston
Pat Fay

4 rows returned in 0.00 seconds   Download

Q3: Display the full name of each employee, and please note each name is right justified.

➢ This SQL query displays the full names of employees, but the RPAD function adds extra spaces to the right of each name until the total width of the column reaches 30 characters.


```
SELECT RPAD(first_name || ' ' || last_name, 30) AS full_name FROM employees;
```

Results   Explain   Describe   Saved SQL   History

FULL_NAME
Ellen Abel
Sundar Ande
Mozhe Atkinson
David Austin
Hermann Baer
Shelli Baida
Amit Banda
Elizabeth Bates
Sarah Bell
David Bernstein
More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.01 seconds   Download