

Course : BIC 21404 Database

Session : II 2024/2025

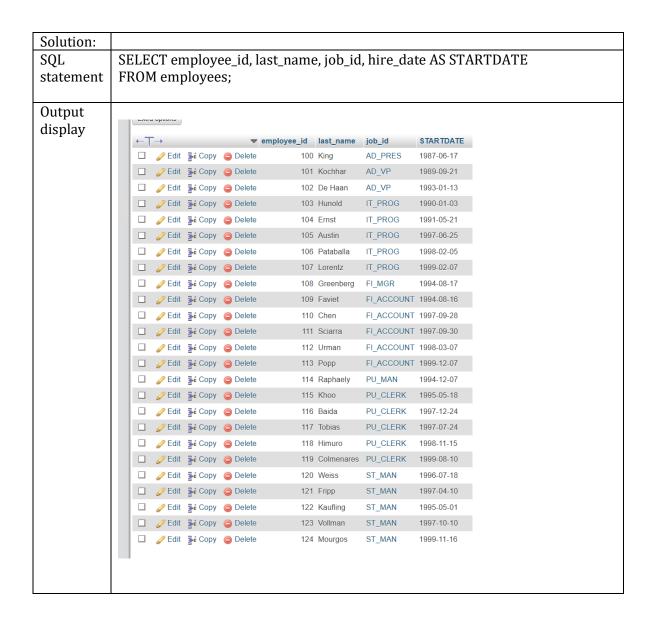
Lab task : 3

Name : MUHAMMAD LUQMAN BIN BAHRIN

Matric No : AI230278

Instructions:

1. The HR department wants a report that displays the last name, job ID, hire date and employee ID for each employee, with the employee ID appearing first. Rename the HIRE DATE column as STARTDATE.





The HR dep	artn	nen	t wants a r	eport	to display	y all uni	que job I	Ds from t
Solution:				-		<u> </u>	1 /	
SQL	SE	LEC	T employe	e id la	ast name	ioh id	hire dat	e AS STA
statement			employees		ast_manne	, job_ia,	IIII C_uuc	C 710 0171
Statement	1 10	OM	cinployees	,				
ı								
_								
Output								
display								
		←Т	_→	~	employee_id	last_name	job_id	STARTDATE
			Ø Edit Lopy Lop	Delete	100	King	AD_PRES	1987-06-17
			Ø Edit B Copy	Delete	101	Kochhar	AD_VP	1989-09-21
			Ø Edit Lopy Lop	Delete	102	De Haan	AD_VP	1993-01-13
			Ø Edit ≩€ Copy	Delete	103	Hunold	IT_PROG	1990-01-03
			Ø Edit B Copy	Delete	104	Ernst	IT_PROG	1991-05-21
			⊘ Edit ♣ Copy	Delete	105	Austin	IT_PROG	1997-06-25
			Ø Edit B Copy	Delete	106	Pataballa	IT_PROG	1998-02-05
			⊘ Edit ♣ Copy	Delete	107	Lorentz	IT_PROG	1999-02-07
			Ø Edit B Copy	Delete	108	Greenberg	FI_MGR	1994-08-17
			Ø Edit G Copy Output Description Output Description Description Output Description Descriptio	Delete	109	Faviet	FI_ACCOUNT	1994-08-16
			Ø Edit B Copy	Delete	110	Chen	FI_ACCOUNT	1997-09-28
			Ø Edit B Copy	Delete	111	Sciarra	FI_ACCOUNT	1997-09-30
			Ø Edit B Copy	Delete	112	Urman	FI_ACCOUNT	1998-03-07
			Ø Edit B Copy	Delete	113	Popp	FI_ACCOUNT	1999-12-07
			Ø Edit B Copy	Delete	114	Raphaely	PU_MAN	1994-12-07
			Ø Edit ♣ Copy	Delete	115	Khoo	PU_CLERK	1995-05-18
			Ø Edit B Copy	Delete	116	Baida	PU_CLERK	1997-12-24
			Ø Edit B Copy	Delete	117	Tobias	PU_CLERK	1997-07-24
				Delete	118	Himuro	PU CLERK	1998-11-15

119 Colmenares PU_CLERK 1999-08-10

ST_MAN

ST_MAN

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1996-07-18

1997-04-10

1995-05-01

1999-11-16

1997-10-10

120 Weiss

121 Fripp

122 Kaufling

123 Vollman

124 Mourgos

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☐ Ø Edit ♣ Copy □ Delete

☐ Ø Edit ♣ Copy ⊜ Delete



3. The HR department wants more descriptive column headings for its report on employees. Use query from (1) and name the column headings EMP #, Employee, Job, and Hire Date, respectively.

respectively	y.	:									
Solution:											
SQL	SI	SELECT employee_id AS "EMP #",									
statement		last_name AS "Employee",									
		job_id AS "Job",									
		hire_date AS "Hire Date"									
	Fl	FROM employees;									
		r - y ,									
Output					_ FMF	. 4	Feedous	l-b	Him Data		
display		←T □		₹ Copy	→ EMF		Employee King	Job AD_PRES	1987-06-17		
				_	DeleteDelete		Kochhar	AD_PRES	1989-09-21		
				_	Delete		De Haan	AD_VP	1993-01-13		
				_	Delete		Hunold	IT PROG	1990-01-03		
			_	_	Delete		Ernst	IT_PROG	1991-05-21		
			_		Delete		Austin	IT_PROG	1997-06-25		
				_	Delete		Pataballa	IT PROG	1998-02-05		
					Delete		Lorentz	IT_PROG	1999-02-07		
			_	_	Delete		Greenberg	FI_MGR	1994-08-17		
			_	_	Delete		Faviet	FI_ACCOUNT			
			_	_	Delete	110	Chen	FI_ACCOUNT	1997-09-28		
			<i>⊘</i> Edit	- Copy	Delete	111	Sciarra	FI_ACCOUNT	1997-09-30		
			<i></i> €dit	3 € Copy	Delete	112	Urman	FI_ACCOUNT	1998-03-07		
			<i>⊘</i> Edit	≩ Copy	Delete	113	Popp	FI_ACCOUNT	1999-12-07		
				≟ Copy	Delete	114	Raphaely	PU_MAN	1994-12-07		
			<i>⊘</i> Edit	≩ Copy	Delete	115	Khoo	PU_CLERK	1995-05-18		
			Ø Edit	≩ Copy	Delete	116	Baida	PU_CLERK	1997-12-24		
			Ø Edit	≩ Copy	Delete	117	Tobias	PU_CLERK	1997-07-24		
				} Copy	Delete	118	Himuro	PU_CLERK	1998-11-15		
				≩ Copy	Delete	119	Colmenares	PU_CLERK	1999-08-10		
				≩ Copy	Delete	120	Weiss	ST_MAN	1996-07-18		
				≩ Copy	Delete	121	Fripp	ST_MAN	1997-04-10		
				} Copy	Delete	122	Kaufling	ST_MAN	1995-05-01		
				_	Delete	123	Vollman	ST_MAN	1997-10-10		
				≟ Copy	Delete	124	Mourgos	ST_MAN	1999-11-16		



4. 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".

Solution:	
SQL	SELECT CONCAT(last_name, ', ', job_id) AS "Employee and Title"
statement	FROM employees;
Statement	1 Kom employees,
Output	
display	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, FL MGR
	Faviet, FI_ACCOUNT
	Chen, FI_ACCOUNT
	Sciarra, FI_ACCOUNT
	Urman, FI_ACCOUNT
	Popp, FI_ACCOUNT
	Raphaely, PU_MAN
	Khoo, PU_CLERK
	Baida, PU_CLERK
	Tobias, PU_CLERK
	Himuro, PU_CLERK
	Colmenares, PU_CLERK
	Weiss, ST_MAN
	Fripp, ST_MAN
	Kaufling, ST_MAN
	Vollman, ST_MAN
	Mourgos, ST_MAN



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

by a comma	a. Name the column title THE_OUTPUT.						
Solution:							
SQL	SELECT CONCAT(employee_id, ',',						
statement	first_name, ',',						
Statement							
	last_name, ',',						
	email, ',',						
	phone_number, ',',						
	hire_date, ',',						
	job_id, ',',						
	salary, ',',						
	IFNULL(commission_pct, 'NULL'), ',',						
	IFNULL(manager_id, 'NULL'), ',',						
	IFNULL(department_id, 'NULL')) AS THE_OUTPUT						
	FROM employees;						
0							
Output	THE OUTPUT						
display	100, Steven, King, SKING, 515.123.4567, 1987-06-17, AD_P						
	101, Neena, Kochhar, NKOCHHAR, 515.123.4568,1989-09-21						
	102,Lex,De Haan,LDEHAAN,515.123.4569,1993-01-13,AD						
	103,Alexander,Hunold,AHUNOLD,590,423,4567,1990-01						
	104,Bruce,Ernst,BERNST,590.423.4568,1991-05-21,IT						
	105,David,Austin,DAUSTIN,590.423.4569,1997-06-25,I						
	106, Valli, Pataballa, VPATABAL, 590.423.4560, 1998-02						
	107, Diana, Lorentz, DLORENTZ, 590. 423. 5567, 1999-02-07						
	108,Nancy,Greenberg,NGREENBE,515.124.4569,1994-08						
	109,Daniel,Faviet,DFAVIET,515.124.4169,1994-08-16,						
	110,John,Chen,JCHEN,515.124.4269,1997-09-28,FI_ACC						
	111, Ismael, Sciarra, ISCIARRA, 515.124.4369, 1997-09-3						
	112, Jose Manuel, Urman, JMURMAN, 515.124.4469, 1998-03						
	113,Luis,Popp,LPOPP,515.124.4567,1999-12-07,FI_ACC 114,Den,Raphaely,DRAPHEAL,515.127.4561,1994-12-07,						
	115, Alexander, Khoo, AKHOO, 515.127.4562, 1995-05-18, P						
	116,Shelli,Baida,SBAIDA,515.127.4563,1997-12-24,PU						
	117, Sigal, Tobias, STOBIAS, 515.127.4564, 1997-07-24, P						
	118, Guy, Himuro, GHIMURO, 515.127.4565, 1998-11-15, PU						
	119, Karen, Colmenares, KCOLMENA, 515.127.4566, 1999-08						
	120,Matthew,Weiss,MWEISS,650.123.1234,1996-07-18,S						
	121,Adam,Fripp,AFRIPP,650.123.2234,1997-04-10,ST_M						
	122,Payam,Kaufling,PKAUFLIN,650.123.3234,1995-05-0						
	123,Shanta,Vollman,SVOLLMAN,650.123.4234,1997-10-1						
	124,Kevīn,Mourgos,KMOURGOS,650.123.5234,1999-11-16						
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6. Write a summary (300 words) on the lesson learned, difficulties arise, or any new knowledge obtained throughout the Lab 3.

Lesson learned in Lab 3

Lab 3 provided a hands-on introduction to SQL query writing, focusing on retrieving and formatting data from a database. The exercises helped me understand fundamental concepts such as selecting specific columns, renaming them for clarity, and concatenating data to create meaningful reports.

One of the key takeaways was learning how to **structure queries** effectively. I practiced using SELECT to retrieve data, DISTINCT to eliminate duplicates, and CONCAT to merge columns into a single output. Additionally, I learned how to handle NULL values using IFNULL, ensuring that reports remain clean and readable even when data is missing.

A challenge I faced was remembering the correct **syntax for string concatenation** in MySQL. At first, I struggled with formatting commas and spaces properly, but after trial and error, I became more comfortable with the structure. Another difficulty was ensuring that column aliases were applied correctly—I initially forgot to use quotation marks for multiword aliases, which caused errors.

The lab also reinforced the importance of **data presentation**. By renaming columns (e.g., changing hire_date to STARTDATE), I saw how small adjustments can make reports more professional and easier to understand. The exercise requiring concatenated employee names and job titles helped me appreciate how SQL can format raw data into useful, readable strings.

Overall, this lab improved my confidence in writing basic SQL queries. While I still need more practice with complex operations, I now have a solid foundation in retrieving and formatting data—a crucial skill for database management. The experience highlighted the importance of precision in SQL syntax and the value of well-structured queries in real-world applications.

