Department of Information Technology

Activity ASSIGNMENT 1
Subject: SQL LAB

Semester: III **Class: SEIT**

Date of Display: **Date Of Submission:**

Batch	Questions	Bloom's Taxonomy Level	Lab Outcomes
Common	1. Consider the following Schema **Pubs Database Schema** author(author id, f irst name, last name) author pub(author id, pub id, author position) book(book id, book title, month, year, editor) pub(pub id, title, book id) • author id in author pub is a foreign key referencing author • pub id in author pub is a foreign key referencing pub • book id in pub is a foreign key referencing book • editor in book is a foreign key referencing author(author id) • Primary keys are underlined. Below the table for pubs database is given. **Answer the following:** a) How many tuples will be returned by the following relational algebra query? πbook title(book) $\pi_{book\_title}(book)$ b) What question does the following expression answer? $\lvert\pi_{author\_id}(author) - \pi_{editor}(book)\rvert$	Analyzing	ITL302.3

	c) Write a relational algebra expression that returns the names of all authors who are book editors. d) Write a relational algebra expression that returns the names of all authors who are not book editors. e) Write a relational algebra expression that returns the names of all authors who have at least one publi-cation in the database. f) How many tuples are returned by the following relational algebra expression? $author \rtimes_{author\_id=editor} book$ g) What question does the following relational algebra expression answer? $author * (author\_pub * (\sigma_{month='July'}(book) * pub))$		
	2. Consider the following relational database schema consisting of the four relation schemas: **passenger** (pid, pname, pgender, pcity) **agency** (aid, aname, acity) **flight** (fid, fdate, time, src, dest) **booking** (pid, aid, fid, fdate) **Answer the following:** a) Get the complete details of all flights to New Delhi. b)Get the details about all flights from Chennai to New Delhi. c)Find the passenger names for passengers who have bookings on at least one flight.	Analyzing	ITL302.3

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Activity Assignment No: 1 Answers
Subject: SQL LAB

Semester: III **Class: SEIT**

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3. Consider the following Schema

Pubs Database Schema

author(author id, f irst name, last name)
author pub(author id, pub id, author position)
book(book id, book title, month, year, editor)
pub(pub id, title, book id)

- author id in author pub is a foreign key referencing author
- pub id in author pub is a foreign key referencing pub
- book id in pub is a foreign key referencing book
- editor in book is a foreign key referencing author(author id)
- Primary keys are underlined

r(author)

author_id	first_name	last_name
1	John	McCarthy
2	Dennis	Ritchie
3	Ken	Thompson
4	Claude	Shannon
5	Alan	Turing
6	Alonzo	Church
7	Perry	White
8	Moshe	Vardi
9	Roy	Batty

r(author_pub)

author_id	pub_id	author_position
1	1	1
2	2	1
3	2	2
4	3	1
5	4	1
5	5	1
6	6	1

r(book)

book_id	book_title	month	year	editor
1	CACM	April	1960	8
2	CACM	July	1974	8
3	BST	July	1948	2
4	LMS	November	1936	7
5	Mind	October	1950	NULL
6	AMS	Month	1941	NULL
7	AAAI	July	2012	9
8	NIPS	July	2012	9

r(pub)

pub_id	title	book_id
1	LISP	1
2	Unix	2
3	Info Theory	3
4	Turing Machines	4
5	Turing Test	5
6	Lambda Calculus	6

Answer the following:

a) How many tuples will be returned by the following relational algebra query? πbook title(book)

$$\pi_{book\_title}(book)$$

Answer:

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b) What question does the following expression answer?

$$|\pi_{author\_id}(author) - \pi_{editor}(book)|$$

Answer:

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c) Write a relational algebra expression that returns the names of all authors who are book editors.

Answer:

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d) Write a relational algebra expression that returns the names of all authors who are not book editors.

Answer:

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e) Write a relational algebra expression that returns the names of all authors who have at least one publi-cation in the database.

Answer:

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f) How many tuples are returned by the following relational algebra expression?

$$author \bowtie_{author\_id=editor} book$$

Answer:

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g) What question does the following relational algebra expression answer?

$author * (author\_pub * (\sigma_{month='July'}(book) * pub))$

Answer:

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2. Consider the following relational database schema consisting of the four relation schemas:

passenger (pid, pname, pgender, pcity)

agency (aid, aname, acity)

flight (fid, fdate, time, src, dest)

booking (pid, aid, fid, fdate)

Answer the following:

a) Get the complete details of all flights to New Delhi.

Answer:

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b)Get the details about all flights from Chennai to New Delhi.

Answer:

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c)Find the passenger names for passengers who have bookings on at least one flight.

Answer:

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Department of Information Technology

Activity Assignment No: 2

Subject: SQL LAB

Semester: III **Class: SEIT**

Date of Display: **Date Of Submission:**

Batch	Questions	Bloom's Taxonomy Level	Lab Outcomes
Common	Q1)Write a SQL query to create table salesman which has the following columns salesman_id | name | city where id starts from 5001 till 5007.	Analyzing	ITL303.4
	Q2)Write a SQL statement that displays all the information about all salespeople.	Analyzing	ITL303.4
	Q3)CREATE an order table with columns ord_no purch_amt ord_date customer_id salesman_id where sales id is 5001 till 5007	Analyzing	ITL303.4
	Q4) From the order table, write a SQL query to calculate total purchase amount of all orders. Return total purchase amount.	Analyzing	ITL303.4
	Q5) From the following table, write a SQL query to calculate the average purchase amount of all orders.	Analyzing	ITL303.4
	Q6) Write a query to display sales id order id city together.	Analyzing	ITL303.4
	Q7) Explain Authorization Using Grant and Revoke with example.	Understanding	ITL303.4
	Q8) Explain Transaction and Concurrency control techniques using locks.	Understanding	ITL302.6

Activity Assignment No: 2 Answers
Subject: SQL LAB

Semester: III **Class: SEIT**

Date of Display: **Date Of Submission:**

Assignment (2) Answers

Q1)
Write a SQL query to create table salesman which has the following columns salesman_id | name | city where id starts from 5001 till 5007.

SYNTAX:

OUTPUT:

Q2)
Write a SQL statement that displays all the information about all salespeople.

SYNTAX:

OUTPUT:

Q3)
CREATE an order table with columns ord_no purch_amt ord_date customer_id salesman_id where sales id is 5001 till 5007

SYNTAX:

OUTPUT:

Q4)
From the order table, write a SQL query to calculate total purchase amount of all orders. Return total purchase amount.

SYNTAX:

OUTPUT:

Q5)
From the following table, write a SQL query to calculate the average purchase amount of all orders.

SYNTAX:
OUTPUT:

Q6)
Write a query to display sales id order id city together.

SYNTAX:

OUTPUT:

Q7) Explain Authorization Using Grant and Revoke with example
Answer:

Q8) Explain Transaction and Concurrency control techniques using locks.

Answer: