FACULTY OF COMPUTING & INFORMATION TECHNOLOGY

UNIVERSITY OF THE PUNJAB

Database Systems: Assignment - 02

BS-DS(Morning/Afternoon) Fall 22 **Due Date:** 04-03-2023

Instructions

- Work on this Assignment individually.
- In case of any ambiguity, benefit will be given to the students.
- First read the query statement carefully before solving it.
- Plagiarism will not be tolerated and it will results in **ZERO**.
- You are supposed to do it on blank papers/ any register paper / any Sheets.
- Solve all the Queries.
- Assignment should be **HANDWRITTEN.**

You have to write all these Queries **Total marks: 100**

Assignment from Ch 1 , 2 , 3

For Example:

Query: Find All Rows from a Table name customers.

SQL : `SELECT * FROM customers;`

Query: Find All Rows from a Table named customer with city New York.

SQL :
```
SELECT * FROM customers
WHERE city = 'New York';
```

==> For Question 1 to 5, use these tables:

Employee (employee-name, street, city)
Works (employee-name, company-name, salary)
Company (company-name, city)
Manages (employee-name, manager-name)

Green are Table names and Oranges are Table attributes.(These table may not be in database).

Question 01: Find the names, street address, and cities of residence for all employees who work for 'First Bank Corporation' and earn more than $10,000.

Question 02: Find the names of all employees in the database who live in the same cities as the companies for which they work.

Question 03: Assume that the companies may be located in several cities. Find all companies located in every city in which 'Small Bank Corporation' is located.

Question 04: Find the names of all employees who earn more than the average salary of all employees of their company. Assume that all people work for at most one company. Find the name of the company that has the smallest payroll.

Question 05: Find the names of all employees in the database who live in the same cities and on the same streets as do their managers.

==> For Question 6 to 20, use these tables:

EMP (EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO)
DEPT (DEPTNO, DNAME, LOC)
SALGRADE (GRADE, LOSAL, HISAL)

Green are Table names and Oranges are Table attributes.(These table may not be in database).

Question 06: Display the ename and department number of all employees in departments 20 and 30 in alphabetical order by ename, and length of name greater than 4.

Question 07: Write a query that displays the employee's names with the first letter capitalized and all other letters lowercase and the length of the name for all employees whose name starts with M, T, or K. Sort the results by the employees' names.

Question 08: For each employee, display the employee number, ename, salary, and salary increased by 15% as New Salary add a column as Increment that subtracts the old salary from the new salary and expressed as a whole number.

Question 09: Write a query that produces the following for each employee: earns monthly but wants. Label the column Dream Salaries whose salary ranges in between 1100 to 2900.

Question 10: Write a query that displays the employee names, job and hire date, also display a column with the name 'New Hire date' in which increase 6 months in the hire date of the Salesman, 2 months in the hire date of Clerk ,1 month in the hired date of President. (Format should be 31/06/2000).

Question 11: Write a query to display the employee name, hire date, number of months employed, first Friday after hire date and last day of the month when hired, for all employees employed for fewer than 36 months.

Question 12: Create a query to display the name and hire date of any employee hired after employee SCOTT.

Question 13: Write a query to display each department's name, location, number of employees, and the average salary for all employees in that department. Label the columns Name, Location, Number of People, and Salary, respectively. Round the average salary to two decimal places.

Question 14: Show all the employee names as EMP_name of length 3 or 4.

Question 15: Write a query that displays the employee numbers and last names of all employees who work in a department with any employee whose last name contains a k, and sorted the record on the basis of employee name.

Question 16: Determine the number of managers without listing them. Label the column Number of Managers.

Question 17: Give salary of all those employees whose name is John and their location is Sydney and also of those whose name is Smith and their location is not California.

Question 18: Show all employee names, starting with 'A' and second last letter 'M'.

Question 19: Give employee name, hire date, department name and commission of all employees in the format, e.g "Hanan was hired on 1-12-2001 in department Accounts with commission 2.5%" as Emp Detail, of those commission is less than 30% of the one third of their salary.

Question 20: Give the employee numbers in ascending order as "Ascending" and in descending order as "Descending".

==> For Question 21 to 25, use these tables:

Production

ID	Title	Date of Production	Date of Expiry	Delivery status
101	Grapes	10-Oct-2018	12-Oct-2024	Delivered
102	Apples	10-Oct-2018	15-Oct-2022	Dispatch
103	Mangoes	10-Oct-2018	14-Oct-2023	Pending
104	Grapes	12-Oct-2018	14-Oct-2022	Delivered

Sales

ID	Title	Available Stock	Price	Sale Status
101	Grapes	3Kgs	250	Sold
102	Apple	10Kgs	1500	Not Sold
103	Mangoes	18Kgs	700	Sold
104	Strawberry	22Kgs	4000	Sold

Question 21: Which Field in the above tables can be a good candidate for being primary key and why?

Question 22: What Types of field properties can be validated or restricted in every field of production table.

Question 23: What is data Integrity and how it can be validated on row level in production Table?

Question 24: What query response will be generated for the following query on database.

```
SELECT  Sales.Available_stock
FROM    Sales
WHERE   Sales.Available_stock IN BETWEEN '5Kgs'
AND     '30Kgs'
```

Question 25: What query response will be generated for the following query on database.

```
SELECT  Production.Title,  Sales.Price,  Production.Delivery_Status
FROM    Production , Sales
WHERE   Production.Date_of_expiry  <  Today()
AND     Sales.Sale_status  ==  "Not Sold"
```

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