

DBMS Experiments 1 & 2 - Full SQL Code

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-- Experiment 1: DDL, DML, and SELECT Queries

-- Create Tables
CREATE TABLE DEPOSIT (
    ACTNO VARCHAR(5),
    CNAME VARCHAR(18),
    BNAME VARCHAR(18),
    AMOUNT FLOAT,
    ADATE DATE
);

CREATE TABLE BRANCH (
    BNAME VARCHAR(18),
    CITY VARCHAR(18)
);

CREATE TABLE CUSTOMERS (
    CNAME VARCHAR(19),
    CITY VARCHAR(18)
);

CREATE TABLE BORROW (
    LOANNO VARCHAR(5),
    CNAME VARCHAR(18),
    BNAME VARCHAR(18),
    AMOUNT FLOAT
);

-- Insert Data into DEPOSIT
INSERT INTO DEPOSIT VALUES ('100', 'ANIL', 'VRCE', 1000.00, '1995-03-01');
INSERT INTO DEPOSIT VALUES ('101', 'SUNIL', 'AJNI', 5000.00, '1996-01-04');
INSERT INTO DEPOSIT VALUES ('102', 'MEHUL', 'KAROLBAGH', 3500.00, '1995-11-17');
INSERT INTO DEPOSIT VALUES ('104', 'MADHURI', 'CHANDI', 1200.00, '1995-12-17');
INSERT INTO DEPOSIT VALUES ('105', 'PRMOD', 'M.G.ROAD', 3000.00, '1996-03-27');
INSERT INTO DEPOSIT VALUES ('106', 'SANDIP', 'ANDHERI', 2000.00, '1996-03-31');
INSERT INTO DEPOSIT VALUES ('107', 'SHIVANI', 'VIRAR', 1000.00, '1995-09-05');
INSERT INTO DEPOSIT VALUES ('108', 'KRANTI', 'NEHRU PLACE', 5000.00, '1995-07-02');
INSERT INTO DEPOSIT VALUES ('109', 'MINU', 'POWAI', 7000.00, '1995-08-10');

-- Insert Data into BRANCH
INSERT INTO BRANCH VALUES ('VRCE', 'NAGPUR');
INSERT INTO BRANCH VALUES ('AJNI', 'NAGPUR');
INSERT INTO BRANCH VALUES ('KAROLBAGH', 'DELHI');
INSERT INTO BRANCH VALUES ('CHANDI', 'DELHI');
INSERT INTO BRANCH VALUES ('DHARAMPETH', 'NAGPUR');
INSERT INTO BRANCH VALUES ('M.G.ROAD', 'BANGLORE');
INSERT INTO BRANCH VALUES ('ANDHERI', 'BOMBAY');
INSERT INTO BRANCH VALUES ('VIRAR', 'BOMBAY');
INSERT INTO BRANCH VALUES ('NEHRU PLACE', 'DELHI');
INSERT INTO BRANCH VALUES ('POWAI', 'BOMBAY');

-- Insert Data into CUSTOMERS
INSERT INTO CUSTOMERS VALUES ('ANIL', 'CALCUTTA');
INSERT INTO CUSTOMERS VALUES ('SUNIL', 'DELHI');
INSERT INTO CUSTOMERS VALUES ('MEHUL', 'BARODA');
INSERT INTO CUSTOMERS VALUES ('MANDAR', 'PATNA');
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INSERT INTO CUSTOMERS VALUES ('MADHURI', 'NAGPUR');
INSERT INTO CUSTOMERS VALUES ('PRAMOD', 'NAGPUR');
INSERT INTO CUSTOMERS VALUES ('SANDIP', 'SURAT');
INSERT INTO CUSTOMERS VALUES ('SHIVANI', 'BOMBAY');
INSERT INTO CUSTOMERS VALUES ('KRANTI', 'BOMBAY');
INSERT INTO CUSTOMERS VALUES ('NAREN', 'BOMBAY');

-- Insert Data into BORROW
INSERT INTO BORROW VALUES ('201', 'ANIL', 'VRCE', 1000.00);
INSERT INTO BORROW VALUES ('206', 'MEHUL', 'AJNI', 5000.00);
INSERT INTO BORROW VALUES ('311', 'SUNIL', 'DHARAMPETH', 3000.00);
INSERT INTO BORROW VALUES ('321', 'MADHURI', 'ANDHERI', 2000.00);
INSERT INTO BORROW VALUES ('375', 'PRMOD', 'VIRAR', 8000.00);
INSERT INTO BORROW VALUES ('481', 'KRANTI', 'NEHRU PLACE', 3000.00);

-- Queries for Experiment 1
DESCRIBE DEPOSIT;
DESCRIBE BRANCH;
DESCRIBE BORROW;
DESCRIBE CUSTOMERS;
SELECT * FROM DEPOSIT;
SELECT * FROM BORROW;
SELECT * FROM CUSTOMERS;
SELECT * FROM BRANCH;
SELECT ACTNO, AMOUNT FROM DEPOSIT;
SELECT CNAME FROM DEPOSIT WHERE AMOUNT > 4000;
SELECT CNAME FROM DEPOSIT WHERE ADATE > '1996-12-01';

-- Experiment 2: Tables and Queries

-- Create Table JOB
CREATE TABLE JOB (
    JOB_ID VARCHAR(15),
    JOB_TITLE VARCHAR(30),
    MIN_SAL FLOAT,
    MAX_SAL FLOAT
);

-- Create Table EMPLOYEE
CREATE TABLE EMPLOYEE (
    EMP_NO INT,
    EMP_NAME VARCHAR(30),
    EMP_SAL FLOAT,
    EMP_COMM FLOAT,
    DEPT_NO INT
);

-- Create Table DEPOSIT (again)
CREATE TABLE DEPOSIT (
    A_NO VARCHAR(5),
    CNAME VARCHAR(15),
    BNAME VARCHAR(10),
    AMOUNT FLOAT,
    A_DATE DATE
);

-- Create Table BORROW (again)
```

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CREATE TABLE BORROW (  
    LOANNO VARCHAR(5),  
    CNAME VARCHAR(15),  
    BNAME VARCHAR(10),  
    AMOUNT DECIMAL(7,2)  
);  
  
-- Insert into EMPLOYEE  
INSERT INTO EMPLOYEE VALUES (101, 'Smith', 800, NULL, 20);  
INSERT INTO EMPLOYEE VALUES (102, 'Snehal', 1600, 300, 25);  
INSERT INTO EMPLOYEE VALUES (103, 'Adama', 1100, 0, 20);  
INSERT INTO EMPLOYEE VALUES (104, 'Aman', 3000, NULL, 15);  
INSERT INTO EMPLOYEE VALUES (105, 'Anita', 5000, 50000, 10);  
INSERT INTO EMPLOYEE VALUES (106, 'Sneha', 2450, 24500, 10);  
INSERT INTO EMPLOYEE VALUES (107, 'Anamika', 2975, NULL, 30);  
  
-- Insert into JOB  
INSERT INTO JOB VALUES ('IT_PROG', 'Programmer', 4000, 10000);  
INSERT INTO JOB VALUES ('MK_MGR', 'Marketing Manager', 9000, 15000);  
INSERT INTO JOB VALUES ('FI_MGR', 'Finance Manager', 8200, 12000);  
INSERT INTO JOB VALUES ('FI_ACC', 'Account', 4200, 9000);  
INSERT INTO JOB VALUES ('LEC', 'Lecturer', 6000, 17000);  
INSERT INTO JOB VALUES ('COMP_OP', 'Computer Operator', 1500, 3000);  
  
-- Insert into DEPOSIT (again)  
INSERT INTO DEPOSIT VALUES ('101', 'Anil', 'andheri', 7000, '2006-01-01');  
INSERT INTO DEPOSIT VALUES ('102', 'Sunil', 'virar', 5000, '2006-07-15');  
INSERT INTO DEPOSIT VALUES ('103', 'Jay', 'villeparle', 6500, '2006-03-12');  
INSERT INTO DEPOSIT VALUES ('104', 'Vijay', 'andheri', 8000, '2006-09-17');  
INSERT INTO DEPOSIT VALUES ('105', 'Keyur', 'dadar', 7500, '2006-11-19');  
INSERT INTO DEPOSIT VALUES ('106', 'Mayor', 'borivali', 5500, '2006-12-21');  
  
-- Queries for Experiment 2  
SELECT * FROM EMPLOYEE;  
SELECT * FROM JOB;  
SELECT * FROM DEPOSIT;  
  
SELECT A_NO, AMOUNT FROM DEPOSIT  
WHERE A_DATE BETWEEN '2006-01-01' AND '2006-07-25';  
  
SELECT * FROM JOB WHERE MIN_SAL > 4000;  
  
SELECT EMP_NAME AS "Employee Name", EMP_SAL FROM EMPLOYEE  
WHERE DEPT_NO = 20;  
  
SELECT EMP_NO, EMP_NAME, DEPT_NO FROM EMPLOYEE  
WHERE DEPT_NO IN (10, 20);  
  
-- LIKE Predicate Queries  
SELECT * FROM EMPLOYEE  
WHERE EMP_NAME LIKE 'A_a%';  
  
SELECT EMP_NAME, EMP_NO, EMP_SAL FROM EMPLOYEE  
WHERE EMP_NAME LIKE 'Ani__';  
  
SELECT EMP_NAME FROM EMPLOYEE  
WHERE EMP_NAME IS NOT NULL
```

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AND EMP_NAME LIKE '_n____';
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```
SELECT EMP_NAME FROM EMPLOYEE  
WHERE EMP_NAME IS NULL  
AND EMP_NAME LIKE '____a____';
```

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-- Escape Example
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SELECT 'LIKE matched' AS Result  
WHERE 'ana_ma' LIKE '%\_%' ESCAPE '\';
```