

## DBMS Lab EX-1

1.

Code:

```
/** */
CREATE DATABASE SWCom;
USE SWCom;
CREATE TABLE Employee (
    Empid INT AUTO_INCREMENT PRIMARY KEY,
    EmpName VARCHAR(40) NOT NULL,
    Addr VARCHAR(50),
    DoB DATE,
    Salary INTEGER
);
--DESC Employee;
INSERT INTO
    Employee (Empname, Addr, DoB, Salary)
VALUES
    (
        'IAmGroot',
        'Somewhere in Space',
        '2012-12-12',
        1E5
    ),
    (
        'Suzaku Kururugi',
        'Main Palace, Britannia',
        '2000-07-10',
        1E4
    ),
    ('Amber', 'Mondstadt, Teyvat', '2001-8-10', 1E6),
    (
        'Btuturuu',
        'Dubai st, New York nagar, India',
        '1993-02-01',
        1E7
    );
CREATE TABLE Project (
    Projno INTEGER AUTO_INCREMENT PRIMARY KEY,
    ProjName VARCHAR(50) NOT NULL,
    Duration INT DEFAULT 0,
    Descr VARCHAR(255)
);
INSERT INTO
    Project (ProjName, Duration, Descr)
VALUES
```

```

('Storyboard', 2, 'Duration in days'),
('Sketching', 3, 'Lot of fleshing out work'),
('Final Revisions', 1, 'Consistency check');
CREATE TABLE WorksOn (
  Empid INT,
  FOREIGN KEY (Empid) REFERENCES Employee(Empid),
  Projno INT,
  FOREIGN KEY(Projno) REFERENCES Project(Projno)
);
INSERT INTO
  WorksOn
VALUES
  (2, 1),
  (4, 1),
  (1, 2),
  (3, 2),
  (3, 2),
  (4, 3);
-- create table employee(datte int);
-- Drop database db_name;
-- DELETE FROM Employee, Project, WorksOn;
DELETE FROM
  WorksOn;
DELETE FROM
  Employee;
DELETE FROM
  Project;
DROP TABLE Employee, Project, WorksOn;
DROP DATABASE SWCom;

```

Inputs:

➔ Employee Table

<input type="checkbox"/>	<input type="text"/>	* Empid int(11)	* EmpName varchar(40)	Addr varchar(50)	DoB date	Salary int(11)
		Filter	Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	1	IAmGroot	Somewhere in Space	2012-12-12	100000
<input type="checkbox"/>	2	2	Suzaku Kururugi	Main Palace, Britannia	2000-07-10	10000
<input type="checkbox"/>	3	3	Amber	Mondstadt, Teyvat	2001-08-10	1000000
<input type="checkbox"/>	4	4	Btuturuu	Dubai st, New York nagar,	1993-02-01	10000000

➔ Project Table

<input type="checkbox"/>	<input type="checkbox"/>	* Projno int(11)	* ProjName varchar(50)	Duration int(11)	Descr varchar(255)
		Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	1	Storyboard	2	Duration in days
<input type="checkbox"/>	2	2	Sketching	3	Lot of fleshing out work
<input type="checkbox"/>	3	3	Final Revisions	1	Consistency check






→ WorksOn

<input checked="" type="checkbox"/>	<input type="checkbox"/>	Empid int(11)	Projno int(11)
		Filter	Filter
	1	2	1
	2	4	1
	3	1	2
	4	3	2
	5	4	3



Query & Outputs:

<pre>SELECT * FROM Employee ORDER BY EmpName DESC;</pre>						
<input type="checkbox"/>	<input type="checkbox"/>	* Empid int(11)	* EmpName varchar(40)	Addr varchar(50)	DoB date	Salary int(11)
		Filter	Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	2	Suzaku Kururugi	Main Palace, Britannia	2000-07-10	10000
<input type="checkbox"/>	2	1	IAmGroot	Somewhere in Space	2012-12-12	100000
<input type="checkbox"/>	3	4	Btuturuu	Dubai st, New York nagar,	1993-02-01	10000000
<input type="checkbox"/>	4	3	Amber	Mondstadt, Teyvat	2001-08-10	1000000



```
SELECT
    *
FROM
    Project
WHERE
    Projno = 2;
```

<input type="checkbox"/>		* Projno int(11)		* ProjName varchar(50)		Duration int(11)		Descr varchar(255)	
		Filter		Filter		Filter		Filter	
<input type="checkbox"/>	1	2		Sketching		3		Lot of fleshing out work	

```
SELECT
    EmpName as Emp_Name
FROM
    Employee
WHERE
    EmpName LIKE 'B%';
```

<input type="checkbox"/>		* Emp_Nam int(11)	
		Filter	
<input type="checkbox"/>	1	Btuturuu	

```
SELECT
    Empid
FROM
    WorksOn
WHERE
    Projno = 2;
```

<input checked="" type="checkbox"/>		Empid int(11)	
		Filter	
	1	1	
	2	3	

2.

Code:

```
CREATE DATABASE College;
USE College;
CREATE TABLE student (
    rno INT,
    sname VARCHAR(20) NOT NULL,
    m1 INT,
    m2 INT,
    m3 INT,
    m4 INT,
    m5 INT,
    m6 INT,
    total INT as (m1 + m2 + m3 + m4 + m5 + m6),
    PRIMARY KEY(rno)
);
INSERT INTO
    student (
        `rno`,
        `sname`,
        `m1`,
        `m2`,
        `m3`,
        `m4`,
        `m5`,
        `m6`
    )
VALUES
    (106119, 'Ravi', 89, 89, 98, 75, 80, 86),
    (106115, 'Kiran', 89, 89, 98, 75, 81, 86),
    (106118, 'Rakesh Kanna', 89, 89, 98, 77, 80, 86),
    (106125, 'Vamsi', 97, 95, 90, 93, 99, 91),
    (106114, 'Hemanth', 95, 96, 95, 96, 98, 97),
    (106116, 'Pavan', 92, 93, 94, 94, 93, 91),
    (106103, 'Durga Naik', 62, 72, 71, 80, 41, 51),
    (106122, 'Susender', 91, 50, 88, 48, 32, 64),
    (106121, 'Sundara Srinivasan', 82, 72, 64, 58, 62, 54),
    (106101, 'Raiden Baal', 100, 99, 89, 97, 96, 95);

CREATE TABLE dept (
    deptid INT PRIMARY KEY,
    deptname VARCHAR(20) NOT NULL,
    HOD VARCHAR(20)
);
INSERT INTO
    dept
VALUES
```

```





















(106, 'CSE', "Rajeswari Ma'aM"),
(105, 'Meta', 'Shankar Sir'),
(104, 'Prod', 'Karthik Sir')
;

CREATE TABLE stud_dept (
  rno INT,
  FOREIGN KEY (rno) REFERENCES student(rno),
  deptid INT,
  FOREIGN KEY (deptid) REFERENCES dept(deptid)
);
INSERT INTO
  stud_dept
VALUES
  (106119, 106),
  (106115, 106),
  (106118, 105),
  (106125, 106),
  (106114, 105),
  (106116, 104),
  (106103, 105),
  (106122, 104),
  (106121, 106),
  (106101, 106);
DELETE FROM stud_dept;
DELETE FROM dept;
DELETE FROM student;
DROP TABLE stud_dept;
DROP TABLE dept;
DROP TABLE student;
DROP DATABASE db_college;

```

Inputs:

➔ Student Table

		 rno int(11)	 sname varchar(20)	 m1 int(11)	 m2 int(11)	 m3 int(11)	 m4 int(11)	 m5 int(11)	 m6 int(11)	 total int(11)
		Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
	1	106101	Raiden Baal	100	99	89	97	96	95	576
	2	106103	Durga Naik	62	72	71	80	41	51	377
	3	106114	Hemanth	95	96	95	96	98	97	577
	4	106115	Kiran	89	89	98	75	81	86	518
	5	106116	Pavan	92	93	94	94	93	91	557
	6	106118	Rakesh Kanna	89	89	98	77	80	86	519
	7	106119	Ravi	89	89	98	75	80	86	517
	8	106121	Sundara Srinivasan	82	72	64	58	62	54	392
	9	106122	Susender	91	50	88	48	32	64	373
	10	106125	Vamsi	97	95	90	93	99	91	565

➔ Department Table

<input type="checkbox"/>	<input type="checkbox"/>	* deptid int(11)	* deptname varchar(20)	HOD varchar(20)
		Filter	Filter	Filter
<input type="checkbox"/>	1	104	Prod	Karthik Sir
<input type="checkbox"/>	2	105	Meta	Shankar Sir
<input type="checkbox"/>	3	106	CSE	Rajeswari Ma'aM

➔ Student-Department

<input checked="" type="checkbox"/>	<input type="checkbox"/>	rno int(11)	deptid int(11)
		Filter	Filter
	1	106119	106
	2	106115	106
	3	106118	105
	4	106125	106
	5	106114	105
	6	106116	104
	7	106103	105
	8	106122	104
	9	106121	106
	10	106101	106

## Queries & Outputs:

```
SELECT
*
FROM
student
WHERE
rno IN (
SELECT
rno
FROM
stud_dept
WHERE
deptid = 105
);
```


	* rno int(11)	* sname varchar(20)	m1 int(11)	m2 int(11)	m3 int(11)	m4 int(11)	m5 int(11)	m6 int(11)	total int(11)
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	106103	Durga Naik	62	72	71	80	41	51	377
2	106114	Hemanth	95	96	95	96	98	97	577
3	106118	Rakesh Kanna	89	89	98	77	80	86	519

```
SELECT
*
FROM
dept
WHERE
deptid IN (
SELECT
deptid
FROM
stud_dept
WHERE
rno = 106121
);
```



	* deptid int(11)	* deptname varchar(20)	HOD varchar(20)
	Filter	Filter	Filter
1	106	CSE	Rajeswari Ma'aM

```
SELECT
sname
FROM
student
WHERE
total > 500;
```



<input type="checkbox"/>		* sname int(11)	
		Filter	
<input type="checkbox"/>	1	Raiden Baal	
<input type="checkbox"/>	2	Hemanth	
<input type="checkbox"/>	3	Kiran	
<input type="checkbox"/>	4	Pavan	
<input type="checkbox"/>	5	Rakesh Kanna	
<input type="checkbox"/>	6	Ravi	
<input type="checkbox"/>	7	Vamsi	

```
SELECT
  HOD
FROM
  dept
WHERE
  deptname = 'CSE';
```

<input type="checkbox"/>		* HOD int(11)	
		Filter	
<input type="checkbox"/>	1	Rajeswari Ma'aM	

```
SELECT
  rno
FROM
  stud_dept
WHERE
  deptid IN (
    SELECT
      deptid
    FROM
      dept
    WHERE
      Deptname = 'CSE'
```

```
);
```

		Filter
	1	106119
	2	106115
	3	106125
	4	106121
	5	106101

3.

Code:

```
CREATE DATABASE Travels;
USE Travels;

CREATE TABLE salesperson (
    ssn INT PRIMARY KEY,
    salesperson_name VARCHAR(50),
    start_year INT, -- YEAR can be used, check range
    dept_no INTEGER
);
INSERT INTO salesperson
VALUES (1000, 'Kinji Ninomiya',2000,1),
      (2000, 'Maou Sadao',2001,02),
      (3000, "Steve Jobs",2004,001)
;

CREATE TABLE trip (
    ssn INT,
    from_city VARCHAR(50),
    to_city VARCHAR(50),
    departure_date DATE,
```

```

    return_date DATE,
    trip_id INT AUTO_INCREMENT,
    PRIMARY KEY (trip_id),
    FOREIGN KEY (ssn) REFERENCES salesperson(ssn)
);
INSERT INTO trip (ssn, from_city, to_city, departure_date, return_date)
VALUES (1000,'Trichy','Chennai','2001-04-04','2001-04-14'),
       (2000, 'Chennai', 'Time Travel', '2002-04-08', '2000-04-08'),
       (3000,'Mumbai', 'Kolkata', '2013-08-12', '2013-08-16'),
       (2000,'Hyderabad', 'Bangalore', '2012-04-11', '2012-04-18'),
       (1000,'Delhi', 'Chennai', '2013-08-12', '2013-08-16')
;

CREATE TABLE salerep_expense (
    trip_id INT,
    expense_type ENUM('TRAVEL','STAY','FOOD'),
    amount INTEGER,
    FOREIGN KEY (trip_id) REFERENCES trip(trip_id)
);
INSERT INTO salerep_expense
VALUES (1, 'TRAVEL', 14E3),
       (2, 'TRAVEL', 1E3),
       (2, 'STAY', 500),
       (2, 'FOOD', 499),
       (3, 'TRAVEL', 12E3),
       (3, 'STAY', 4E3),
       (3, 'FOOD', 2400)
;

DELETE FROM salerep_expense;
DELETE FROM trip;
DELETE FROM salesperson;
DROP TABLE salerep_expense;
DROP TABLE trip;
DROP TABLE salesperson;
DROP DATABASE Travels;

```

Inputs:

➔ Salesperson Table

		* ssn int(11)	salesperson_name varchar(50)	start_year int(11)	dept_no int(11)
		Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	1000	Kinji Ninomiya	2000	1
<input type="checkbox"/>	2	2000	Maou Sadao	2001	2
<input type="checkbox"/>	3	3000	Steve Jobs	2004	1

→ Trips Table

		ssn int(11)	from_city varchar(50)	to_city varchar(50)	departure_date date	return_date date	* trip_id int(11)
		Filter	Filter	Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	1000	Trichy	Chennai	2001-04-04	2001-04-14	1
<input type="checkbox"/>	2	2000	Chennai	Time Travel	2002-04-08	2000-04-08	2
<input type="checkbox"/>	3	3000	Mumbai	Kolkata	2013-08-12	2013-08-16	3
<input type="checkbox"/>	4	2000	Hyderabad	Bangalore	2012-04-11	2012-04-18	4
<input type="checkbox"/>	5	1000	Delhi	Chennai	2013-08-12	2013-08-16	5

→ SalesRep\_Expense

		trip_id int(11)	expense_type enum('TRAVEL','S	amount int(11)
		Filter	Filter	Filter
<input checked="" type="checkbox"/>	1	1	TRAVEL	14000
	2	2	TRAVEL	1000
	3	2	STAY	500
	4	2	FOOD	499
	5	3	TRAVEL	12000
	6	3	STAY	4000
	7	3	FOOD	2400

## Queries & Outputs:

```
SELECT trip.*
FROM trip
WHERE trip.trip_id IN (
    SELECT DISTINCT(trip_id)
    FROM salerep_expense
    GROUP BY trip_id
    HAVING SUM(amount) > 2000
);
```

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ssn int(11)	from_city varchar(50)	to_city varchar(50)	departure_date date	return_date date	* trip_id int(11)
		Filter	Filter	Filter	Filter	Filter	Filter
	1	1000	Trichy	Chennai	2001-04-04	2001-04-14	1
	2	3000	Mumbai	Kolkata	2013-08-12	2013-08-16	3

```
SELECT ssn
FROM trip
WHERE to_city = 'Chennai'
GROUP BY ssn
HAVING COUNT(to_city) >1
;
```

<input type="checkbox"/>	<input checked="" type="checkbox"/>	ssn int(11)
		Filter
	1	1000

```
SELECT *
FROM salesperson
WHERE ssn = 1000;
;
```

<input type="checkbox"/>	<input checked="" type="checkbox"/>	* ssn int(11)	salesperson_name varchar(50)	start_year int(11)	dept_no int(11)
		Filter	Filter	Filter	Filter
	1	1000	Kinji Ninomiya	2000	1

```
SELECT *
FROM salesperson
ORDER BY salesperson_name;
```

		* ssn int(11)	salesperson_name varchar(50)	start_year int(11)	dept_no int(11)
		Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	1000	Kinji Ninomiya	2000	1
<input type="checkbox"/>	2	2000	Maou Sadao	2001	2
<input type="checkbox"/>	3	3000	Steve Jobs	2004	1

4.

Code:

```
CREATE DATABASE CarDealers;
USE CarDealers;

CREATE TABLE Car (
    serial_no INT AUTO_INCREMENT PRIMARY KEY,
    model VARCHAR(25),
    manufacturer VARCHAR(25),
    price INTEGER
);
INSERT INTO car(model, manufacturer, price) VALUES
    ('Swift ZDI', 'Maruthi Suzuki', 7E5),
    ('Sumo', 'Tata', 1E6),
    ('Veyron', 'Bugatti', 1.3E8),
    ('Portofino', 'Ferrari', 7.5E8)
;

CREATE TABLE options (
    serial_no INTEGER,
    option_name VARCHAR(50),
    price INTEGER,
    FOREIGN KEY (serial_no) REFERENCES Car(serial_no)
);
INSERT INTO options VALUES
    (1, 'Stepney Tyre', 7.3E3),
    (1, 'ABS Brakes', 7.5E3),
    (2, 'Stepney Tyre', 1.2E4),
    (2, 'Suspension', 1.4E4)
;
```

```

CREATE TABLE salesperson (
    salesperson_id INT AUTO_INCREMENT PRIMARY KEY,
    salesperson_name VARCHAR(50),
    phone VARCHAR(16)
);
INSERT INTO salesperson (salesperson_name, phone) VALUES
    ('Woody Woodpecker', '1223334444'),
    ('John', '1234567890'),
    ('Kinji Ninomiya', '1000000000')
;

CREATE TABLE sales (
    salesperson_id INT,
    serial_no INT,
    date_ofsale DATE,
    sale_price INTEGER,
    FOREIGN KEY (salesperson_id) REFERENCES salesperson(salesperson_id),
    FOREIGN KEY (serial_no) REFERENCES car(serial_no)
);
INSERT INTO sales VALUES
    (1, 2, '2015-05-06', 1.2E7),
    (3, 2, '2014-04-10', 1.4E7),
    (2, 3, '2018-09-24', 1.35E8),
    (3, 1, '2017-12-30', 7.5E5),
    (2, 4, '2012-09-24', 7.6E8),
    (1, 1, '2016-10-01', 7.3E5)
;

-
- Verify whether relation table can exist after deleting the tables it relates
/** Verified, we have to delete the referncing column or all entries before del
eting others */
DELETE FROM sales;
DELETE FROM options;
DELETE FROM car;
DELETE FROM salesperson;
DROP TABLE sales, options, car, salesperson;
DROP DATABASE CarDealers;

```

Inputs:

➔ Car Table

<input type="checkbox"/>	<input checked="" type="checkbox"/>	* serial_no int(11)	model varchar(25)	manufacturer varchar(25)	price int(11)
		Filter	Filter	Filter	Filter
<input type="checkbox"/>	1	1	Swift ZDI	Maruthi Suzuki	700000
<input type="checkbox"/>	2	2	Sumo	Tata	1000000
<input type="checkbox"/>	3	3	Veyron	Bugatti	130000000
<input type="checkbox"/>	4	4	Portofino	Ferrari	750000000

→ Options

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	serial_no int(11)	option_name varchar(50)	price int(11)
		Filter	Filter	Filter
	1	1	Stepney Tyre	7300
	2	1	ABS Brakes	7500
	3	2	Stepney Tyre	12000
	4	2	Suspension	14000

→ Salesperson Table

<input type="checkbox"/>	<input checked="" type="checkbox"/>	* salesperson_id int(11)	salesperson_name varchar(50)	phone varchar(16)
		Filter	Filter	Filter
<input type="checkbox"/>	1	1	Woody Woodpecker	1223334444
<input type="checkbox"/>	2	2	John	1234567890
<input type="checkbox"/>	3	3	Kinji Ninomiya	1000000000

→ Sales



		salesperson_id int(11)	serial_no int(11)	date_ofsale date	sale_price int(11)
		Filter	Filter	Filter	Filter
	1	1	2	2015-05-06	12000000
	2	3	2	2014-04-10	14000000
	3	2	3	2018-09-24	135000000
	4	3	1	2017-12-30	750000
	5	2	4	2012-09-24	760000000
	6	1	1	2016-10-01	730000

Queries & Outputs:

```
SELECT sales.serial_no, car.manufacturer, sale_price
FROM sales, car, salesperson
WHERE salesperson_name = 'John'
      AND salesperson.salesperson_id = sales.salesperson_id
      AND sales.serial_no = car.serial_no
;
```

		serial_no int(11)	manufacturer int(11)	sale_price date
		Filter	Filter	Filter
	1	3	Bugatti	135000000
	2	4	Ferrari	760000000

```
SELECT DISTINCT car.serial_no, model
FROM car, options
WHERE car.serial_no NOT IN (
  SELECT DISTINCT options.serial_no
  FROM options
);
```

		* serial_no int(11)	model varchar(25)
		Filter	Filter
	1	3	Veyron
	2	4	Portofino

```
SELECT DISTINCT car.serial_no, model
FROM car, options
WHERE car.serial_no = options.serial_no;
```

		* serial_no int(11)	model varchar(25)
		Filter	Filter
<input type="checkbox"/>	1	1	Swift ZDI
<input type="checkbox"/>	2	2	Sumo

```
UPDATE salesperson
SET phone = '1020304050'
WHERE salesperson_id = 2;
```

EXECUTE SUCCESS:

UPDATE salesperson SET phone = '1020304050' WHERE salesperson\_id = 2

AffectedRows : 1

		* salesperson_id int(11)	salesperson_name varchar(50)	phone varchar(16)
		Filter	Filter	Filter
<input type="checkbox"/>	1	1	Woody Woodpecker	1223334444
<input type="checkbox"/>	2	2	John	1020304050
<input type="checkbox"/>	3	3	Kinji Ninomiya	1000000000