Practical No 6

- **Types of SQL Joins**

  - **Inner Join :**

```
CREATE TABLE CUSTOMERS (
  ID INT NOT NULL,
  NAME VARCHAR (20) NOT NULL,
  AGE INT NOT NULL,
  ADDRESS CHAR (25),
  SALARY DECIMAL (18, 2),
  PRIMARY KEY (ID)
);
INSERT INTO CUSTOMERS VALUES
(1, 'Ramesh', 32, 'Ahmedabad', 2000.00 ),
(2, 'Khilan', 25, 'Delhi', 1500.00 ),
(3, 'Kaushik', 23, 'Kota', 2000.00 ),
(4, 'Chaitali', 25, 'Mumbai', 6500.00 ),
(5, 'Hardik', 27, 'Bhopal', 8500.00 ),
(6, 'Komal', 22, 'Hyderabad', 4500.00 ),
(7, 'Muffy', 24, 'Indore', 10000.00 );
```

CUSTOMERS

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000
2	Khilan	25	Delhi	1500
3	Kaushik	23	Kota	2000
4	Chaitali	25	Mumbai	6500
5	Hardik	27	Bhopal	8500
6	Komal	22	Hyderabad	4500
7	Muffy	24	Indore	10000

```
CREATE TABLE ORDERS (
  OID INT NOT NULL,
  DATE VARCHAR (20) NOT NULL,
  CUSTOMER_ID INT NOT NULL,
  AMOUNT DECIMAL (18, 2)
);
INSERT INTO ORDERS VALUES
(102, '2009-10-08 00:00:00', 3, 3000.00),
(100, '2009-10-08 00:00:00', 3, 1500.00),
(101, '2009-11-20 00:00:00', 2, 1560.00),
(103, '2008-05-20 00:00:00', 4, 2060.00);
```

ORDERS

OID	DATE	CUSTOMER_ID	AMOUNT
102	2009-10-08 00:00:00	3	3000
100	2009-10-08 00:00:00	3	1500
101	2009-11-20 00:00:00	2	1560
103	2008-05-20 00:00:00	4	2060

Let us now combine these two tables using the Inner Join query as shown below –

```
SELECT ID, NAME, AMOUNT, DATE
FROM CUSTOMERS
INNER JOIN ORDERS
ON CUSTOMERS.ID = ORDERS.CUSTOMER_ID;
```

ID	NAME	AMOUNT	DATE
3	Kaushik	3000	2009-10-08 00:00:00
3	Kaushik	1500	2009-10-08 00:00:00
2	Khilan	1560	2009-11-20 00:00:00
4	Chaitali	2060	2008-05-20 00:00:00

- **Left Outer Join :**

```
CREATE TABLE CUSTOMERS (
   ID INT NOT NULL,
   NAME VARCHAR (20) NOT NULL,
   AGE INT NOT NULL,
   ADDRESS CHAR (25),
   SALARY DECIMAL (18, 2),
   PRIMARY KEY (ID)
);
INSERT INTO CUSTOMERS VALUES
(1, 'Ramesh', 32, 'Ahmedabad', 2000.00 ),
(2, 'Khilan', 25, 'Delhi', 1500.00 ),
(3, 'Kaushik', 23, 'Kota', 2000.00 ),
(4, 'Chaitali', 25, 'Mumbai', 6500.00 ),
(5, 'Hardik', 27, 'Bhopal', 8500.00 ),
(6, 'Komal', 22, 'Hyderabad', 4500.00 ),
(7, 'Muffy', 24, 'Indore', 10000.00 );
```

CUSTOMERS

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000
2	Khilan	25	Delhi	1500
3	Kaushik	23	Kota	2000
4	Chaitali	25	Mumbai	6500
5	Hardik	27	Bhopal	8500
6	Komal	22	Hyderabad	4500
7	Muffy	24	Indore	10000

```
CREATE TABLE ORDERS (
  OID INT NOT NULL,
  DATE VARCHAR (20) NOT NULL,
  CUSTOMER_ID INT NOT NULL,
  AMOUNT DECIMAL (18, 2)
);
INSERT INTO ORDERS VALUES
(102, '2009-10-08 00:00:00', 3, 3000.00),
(100, '2009-10-08 00:00:00', 3, 1500.00),
(101, '2009-11-20 00:00:00', 2, 1560.00),
(103, '2008-05-20 00:00:00', 4, 2060.00);
```

ORDERS

OID	DATE	CUSTOMER_ID	AMOUNT
102	2009-10-08 00:00:00	3	3000
100	2009-10-08 00:00:00	3	1500
101	2009-11-20 00:00:00	2	1560
103	2008-05-20 00:00:00	4	2060

```
SELECT ID, NAME, AMOUNT, DATE
FROM CUSTOMERS
LEFT JOIN ORDERS
ON CUSTOMERS.ID = ORDERS.CUSTOMER_ID;
```

ID	NAME	AMOUNT	DATE
1	Ramesh		
2	Khilan	1560	2009-11-20 00:00:00
3	Kaushik	1500	2009-10-08 00:00:00
3	Kaushik	3000	2009-10-08 00:00:00
4	Chaitali	2060	2008-05-20 00:00:00
5	Hardik		
6	Komal		
7	Muffy		

- **Right Outer Join :**

```
CREATE TABLE CUSTOMERS (
  ID INT NOT NULL,
  NAME VARCHAR (20) NOT NULL,
  AGE INT NOT NULL,
  ADDRESS CHAR (25),
  SALARY DECIMAL (18, 2),
  PRIMARY KEY (ID)
);
INSERT INTO CUSTOMERS VALUES
(1, 'Ramesh', 32, 'Ahmedabad', 2000.00 ),
(2, 'Khilan', 25, 'Delhi', 1500.00 ),
(3, 'Kaushik', 23, 'Kota', 2000.00 ),
(4, 'Chaitali', 25, 'Mumbai', 6500.00 ),
(5, 'Hardik', 27, 'Bhopal', 8500.00 ),
(6, 'Komal', 22, 'Hyderabad', 4500.00 ),
(7, 'Muffy', 24, 'Indore', 10000.00 );
```

CUSTOMERS

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000
2	Khilan	25	Delhi	1500
3	Kaushik	23	Kota	2000
4	Chaitali	25	Mumbai	6500
5	Hardik	27	Bhopal	8500
6	Komal	22	Hyderabad	4500
7	Muffy	24	Indore	10000

```
CREATE TABLE ORDERS (
  OID INT NOT NULL,
  DATE VARCHAR (20) NOT NULL,
  CUSTOMER_ID INT NOT NULL,
  AMOUNT DECIMAL (18, 2)
);
INSERT INTO ORDERS VALUES
(102, '2009-10-08 00:00:00', 3, 3000.00),
(100, '2009-10-08 00:00:00', 3, 1500.00),
(101, '2009-11-20 00:00:00', 2, 1560.00),
(103, '2008-05-20 00:00:00', 4, 2060.00);
```

ORDERS

OID	DATE	CUSTOMER_ID	AMOUNT
102	2009-10-08 00:00:00	3	3000
100	2009-10-08 00:00:00	3	1500
101	2009-11-20 00:00:00	2	1560
103	2008-05-20 00:00:00	4	2060

```
SELECT ID, NAME, AMOUNT, DATE
FROM CUSTOMERS
RIGHT JOIN ORDERS
ON CUSTOMERS.ID = ORDERS.CUSTOMER_ID;
```

ID	NAME	AMOUNT	DATE
3	Kaushik	3000.00	2009-10-08 00:00:00
3	Kaushik	1500.00	2009-10-08 00:00:00
2	Khilan	1560.00	2009-11-20 00:00:00
4	Chaitali	2060.00	2008-05-20 00:00:00

- **Full Outer Join :**

```
CREATE TABLE CUSTOMERS (
   ID INT NOT NULL,
   NAME VARCHAR (20) NOT NULL,
   AGE INT NOT NULL,
   ADDRESS CHAR (25),
   SALARY DECIMAL (18, 2),
   PRIMARY KEY (ID)
);
INSERT INTO CUSTOMERS VALUES
(1, 'Ramesh', 32, 'Ahmedabad', 2000.00 ),
(2, 'Khilan', 25, 'Delhi', 1500.00 ),
(3, 'Kaushik', 23, 'Kota', 2000.00 ),
(4, 'Chaitali', 25, 'Mumbai', 6500.00 ),
(5, 'Hardik', 27, 'Bhopal', 8500.00 ),
(6, 'Komal', 22, 'Hyderabad', 4500.00 ),
(7, 'Muffy', 24, 'Indore', 10000.00 );
```

CUSTOMERS

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Ahmedabad	2000
2	Khilan	25	Delhi	1500
3	Kaushik	23	Kota	2000
4	Chaitali	25	Mumbai	6500
5	Hardik	27	Bhopal	8500
6	Komal	22	Hyderabad	4500
7	Muffy	24	Indore	10000

```
CREATE TABLE ORDERS (
  OID INT NOT NULL,
  DATE VARCHAR (20) NOT NULL,
  CUSTOMER_ID INT NOT NULL,
  AMOUNT DECIMAL (18, 2)
);
INSERT INTO ORDERS VALUES
(102, '2009-10-08 00:00:00', 3, 3000.00),
(100, '2009-10-08 00:00:00', 3, 1500.00),
(101, '2009-11-20 00:00:00', 2, 1560.00),
(103, '2008-05-20 00:00:00', 4, 2060.00);
```

ORDERS

OID	DATE	CUSTOMER_ID	AMOUNT
102	2009-10-08 00:00:00	3	3000
100	2009-10-08 00:00:00	3	1500
101	2009-11-20 00:00:00	2	1560
103	2008-05-20 00:00:00	4	2060

```
SELECT ID, NAME, AMOUNT, DATE
FROM CUSTOMERS
FULL JOIN ORDERS
ON CUSTOMERS.ID = ORDERS.CUSTOMER_ID;
```

ID	NAME	AMOUNT	DATE
1	Ramesh	NULL	NULL
2	Khilan	1560	2009-11-20 00:00:00
3	Kaushik	3000	2009-10-08 00:00:00
3	Kaushik	1500	2009-10-08 00:00:00
4	Chaitali	2060	2008-05-20 00:00:00
5	Hardik	NULL	NULL
6	Komal	NULL	NULL
7	Muffy	NULL	NULL