Group No. 18

Nikhil Vaghasiya(i.d. :- 202003042**)**

Hardikkumar jani (**i.d.** :- 202003041)

Lab No.:- 5(08-10-2021)

Dairy product management system

- **DATABASE DDL :-**

```
CREATE SCHEMA DAIRY_MANAGEMANT_SYSTEM;

SET SEARCH_PATH TO DAIRY_MANAGEMANT_SYSTEM;

CREATE DOMAIN MOBILE_NUMBER AS DECIMAL(10,0)
CHECK(VALUE >= 1000000000 AND VALUE <= 9999999999);

CREATE TABLE WORKER (

        WORKER_ID INTEGER PRIMARY KEY,
        W_FIRST_NAME VARCHAR(10) NOT NULL,
        W_LAST_NAME VARCHAR(10) NOT NULL,
        W_ADDRESS TEXT NOT NULL,
        W_BIRTH_DATE DATE NOT NULL,
        W_JOINING_DATE DATE NOT NULL,
        W_SALARY DECIMAL(6,0)
);

CREATE TABLE WORKER_MOBILE_NUMBER (

        WMN_WORKER_ID INTEGER REFERENCES
WORKER(WORKER_ID) ON DELETE CASCADE ON UPDATE
CASCADE,
        WMN_MO_NO MOBILE_NUMBER,
        PRIMARY KEY(WMN_WORKER_ID,WMN_MO_NO)
);
```

```
CREATE TABLE MANAGER (
	M_WORKER_ID INTEGER REFERENCES WORKER(WORKER_ID)
ON DELETE CASCADE ON UPDATE CASCADE PRIMARY KEY,
	M_USER_NAME VARCHAR(15) NOT NULL UNIQUE,
	M_PASSWORD VARCHAR(8) NOT NULL
);

CREATE TABLE CUSTOMER (

	C_MOBILE_NO MOBILE_NUMBER PRIMARY KEY,
	C_FIRST_NAME VARCHAR(10) NOT NULL,
	C_LAST_NAME VARCHAR(10) NOT NULL,
	C_LOCALITY VARCHAR(20),
	C_PINCODE DECIMAL(6,0) CHECK(C_PINCODE >= 100000 AND
C_PINCODE <= 999999),
	C_CITY VARCHAR(10),
	W_ID INTEGER DEFAULT 1 NOT NULL,
	FOREIGN KEY(W_ID) REFERENCES WORKER(WORKER_ID) ON
DELETE SET DEFAULT ON UPDATE CASCADE
);

CREATE TABLE FEEDBACK (

	F_TITLE VARCHAR(20),
	CUSTOMER_MO_NO MOBILE_NUMBER REFERENCES
CUSTOMER(C_MOBILE_NO) ON DELETE CASCADE ON UPDATE
CASCADE,
	PRIMARY KEY(CUSTOMER_MO_NO),
	F_RATING DECIMAL(2,1) CHECK(F_RATING >= 0.0 AND
F_RATING <= 5.0) NOT NULL,
	F_COMMENT TEXT
);

CREATE TABLE OUTLET (

	OUTLET_CODE VARCHAR(5),
	PRIMARY KEY(OUTLET_CODE),
```

```
	O_STARTING_DATE DATE NOT NULL,
	O_ADDRESS TEXT NOT NULL
);

CREATE TABLE OUTLET_MOBILE_NUMBER (

	OMN_OUTLET_CODE VARCHAR(5) REFERENCES
OUTLET(OUTLET_CODE) ON DELETE CASCADE ON UPDATE
CASCADE,
	OMN_MOBILE_NO MOBILE_NUMBER,
	PRIMARY KEY(OMN_OUTLET_CODE,OMN_MOBILE_NO)
);

CREATE TABLE WORKING (

	W_WORKER_ID INTEGER REFERENCES WORKER(WORKER_ID)
ON DELETE CASCADE ON UPDATE CASCADE,
	W_OUTLET_ID VARCHAR(5) REFERENCES
OUTLET(OUTLET_CODE) ON DELETE CASCADE ON UPDATE
CASCADE,
	PRIMARY KEY(W_WORKER_ID,W_OUTLET_ID)
);

CREATE TABLE BILL (

	BILL_ID DECIMAL(11,0) PRIMARY KEY,
	B_PAYMENT_TYPE VARCHAR(8) NOT NULL,
	B_TOTAL_AMOUNT DOUBLE PRECISION NOT NULL,
	B_TOTAL_TAX REAL,
	B_DATE DATE NOT NULL,
	C_MO_NO MOBILE_NUMBER REFERENCES
CUSTOMER(C_MOBILE_NO) ON UPDATE CASCADE ON DELETE
RESTRICT,
	O_CODE VARCHAR(5) DEFAULT 'MAIN' NOT NULL,
	FOREIGN KEY(O_CODE) REFERENCES
OUTLET(OUTLET_CODE) ON DELETE SET DEFAULT ON UPDATE
CASCADE
```

```
);

CREATE TABLE SELLER (

        SELLER_ID DECIMAL(8) PRIMARY KEY,
        S_FIRST_NAME VARCHAR(10) NOT NULL,
        S_LAST_NAME VARCHAR(10) NOT NULL,
        S_COMPANY_NAME VARCHAR(20) NOT NULL,
        S_MOBILE_NO MOBILE_NUMBER NOT NULL
);

CREATE TABLE PRODUCT (

        PRODUCT_ID VARCHAR(8) PRIMARY KEY,
        P_NAME VARCHAR(20) NOT NULL,
        P_COMPANY_NAME VARCHAR(20) NOT NULL,
        P_TAX REAL NOT NULL,
        P_UNIT_PRICE REAL NOT NULL,
        P_QUANTITY INTEGER NOT NULL,
        P_PROFIT REAL NOT NULL,
        P_SELLER_ID DECIMAL(8) REFERENCES SELLER(SELLER_ID)
ON DELETE SET DEFAULT ON UPDATE CASCADE
);

CREATE TABLE INCLUDE_PRODUCT (

        I_BILL_ID DECIMAL(11) REFERENCES BILL(BILL_ID) ON
DELETE CASCADE ON UPDATE CASCADE,
        I_PRODUCT_ID VARCHAR(8) REFERENCES
PRODUCT(PRODUCT_ID) ON DELETE CASCADE ON UPDATE
CASCADE,
        I_QUANTITY DECIMAL(5),
        PRIMARY KEY(I_BILL_ID,I_PRODUCT_ID)
);

CREATE TABLE MILK (
```

```
	M_PRODUCT_ID VARCHAR(8) REFERENCES
PRODUCT(PRODUCT_ID) ON DELETE CASCADE ON UPDATE
CASCADE,
	M_TYPE VARCHAR(10) CHECK(M_TYPE IN
('COW','BUFFALO','GOAT','SHEEP')),
	M_FAT REAL CHECK(M_FAT <= 7.0 AND M_FAT >= 0.0),
	PRIMARY KEY(M_PRODUCT_ID),
	M_TOTAL_QUANTITY INTEGER NOT NULL
);

CREATE TABLE TRANSPORT (

	TRANSPORT_ID DECIMAL(10) PRIMARY KEY,
	DRIVER_FIRST_NAME VARCHAR(10) NOT NULL,
	DRIVER_LAST_NAME VARCHAR(10) NOT NULL,
	T_DATE DATE NOT NULL,
	ADDRESS TEXT NOT NULL,
	T_TOTAL_AMOUNT DOUBLE PRECISION NOT NULL,
	MERCHANT_FIRST_NAME VARCHAR(10) NOT NULL,
	MERCHANT_LAST_NAME VARCHAR(10) NOT NULL,
	MERCHANT_MO_NO MOBILE_NUMBER NOT NULL,
	T_BILL_ID DECIMAL(11) UNIQUE REFERENCES BILL(BILL_ID)
ON DELETE CASCADE ON UPDATE CASCADE NOT NULL,
	T_WORKER_ID INTEGER DEFAULT 1 NOT NULL,
	FOREIGN KEY(T_WORKER_ID) REFERENCES
WORKER(WORKER_ID) ON DELETE SET DEFAULT ON UPDATE
CASCADE
);

CREATE TABLE SELLING_REPORT(
	SR_TOTAL_QUANTITY INTEGER NOT NULL,
	SR_TOTAL_AMOUNT DOUBLE PRECISION NOT NULL,
	SR_TOTAL_PROFIT REAL NOT NULL,
	SR_DATE DATE NOT NULL,
	SR_PRODUCT_CODE VARCHAR(8) REFERENCES
PRODUCT(PRODUCT_ID) ON DELETE NO ACTION ON UPDATE
CASCADE,
```

```
    SR_OUTLET_CODE VARCHAR(5) DEFAULT 'MAIN',
    FOREIGN KEY(SR_OUTLET_CODE) REFERENCES
OUTLET(OUTLET_CODE) ON DELETE SET DEFAULT ON UPDATE
CASCADE,
    PRIMARY
KEY(SR_DATE,SR_PRODUCT_CODE,SR_OUTLET_CODE)
);

CREATE TABLE PURCHASE_REPORT(
    PR_DATE DATE NOT NULL,
    PAYMENT_TYPE VARCHAR(8) NOT NULL,
    PR_TOTAL_AMOUNT DOUBLE PRECISION NOT NULL,
    SELLER_ID  DECIMAL(8) REFERENCES SELLER(SELLER_ID) ON
DELETE SET DEFAULT ON UPDATE CASCADE,
    OUTLET_CODE VARCHAR(5) DEFAULT 'MAIN',
    FOREIGN KEY(OUTLET_CODE) REFERENCES
OUTLET(OUTLET_CODE) ON DELETE SET DEFAULT ON UPDATE
CASCADE,
    PRIMARY KEY(PR_DATE,SELLER_ID,OUTLET_CODE)
);
```

❖ Constraints which are not implemented by DDL :-

- ➢ If we delete a seller then what should we do for product delete or not ? Because if we delete a seller and product quantity is 0 then no usage of that product in that case we have to delete product but if quantity is not zero then we can not delete that product.
- ➢ If we delete an outlet then we can delete workers but there is a manager who works as a worker and we don’t want to lose information about that work then how we can make that constraints.
- ➢ In our database there are some attributes which we do not want visible to all like passwords we don’t want to show all.

- Here for some primary keys we have to check that some digits are valid or not ? Like in bill_id first some digits are for date and after that we use another digit. But here we can't check if the digits store a valid date or not.