

INVENTORY MANAGEMENT SQL PROJECT

--- Creating Database

CREATE DATABASE INVENTORY

-- Entering into the data base
USE INVENTORY

---***** CREATING TABLE SUPPLIER AND APPLYING CONSTRAINTS *****

CREATE TABLE SUPPLIER
(SID CHAR(5) PRIMARY KEY,
SNAME VARCHAR(20) NOT NULL,
SADDRESS VARCHAR(50) NOT NULL,
SCITY VARCHAR(20) DEFAULT 'DELHI',
SPHONE CHAR(10) UNIQUE,
EMAIL VARCHAR(50));

---**** CREATING TABLE PRODUCT AND APPLYING CONSTRAINTS ****

CREATE TABLE PRODUCT
(PID CHAR(5) PRIMARY KEY,
PDESC VARCHAR(50) NOT NULL,
PRICE INT CHECK(PRICE>0),
CATEGORY CHAR(2) CHECK(CATEGORY = 'IT' OR CATEGORY = 'HR' OR CATEGORY = 'HC'),
SID CHAR(5) FOREIGN KEY REFERENCES SUPPLIER(SID));

---*** CREATE TABLE STOCK & APPLYING CONSTRAINTS ***

CREATE TABLE STOCK
(PID CHAR(5) FOREIGN KEY REFERENCES PRODUCT(PID),
SQTY INT CHECK(SQTY>=0),
ROL INT CHECK(ROL>10),---Reorder level
MOQ INT CHECK (MOQ>=5))--- Minimum order quantity

---*** CREATE CUSTOMER TABLE APPLYING CONSTRAINTS *****

CREATE TABLE CUSTOMER
(CID CHAR(5) PRIMARY KEY,
CNAME VARCHAR(20) NOT NULL,
ADDRESS VARCHAR(20) NOT NULL,
CITY VARCHAR(10) NOT NULL,
PHONE CHAR(10) NOT NULL,
EMAIL VARCHAR(50) NOT NULL,
DOB DATE CHECK(DOB>'01-JAN-2000'));

---*** CREATE TABLE ORDERS AND APPLYING CONSTRAINTS *****

```
CREATE TABLE ORDERS
(OID CHAR(5) PRIMARY KEY,
ODATE DATE,
PID CHAR(5) FOREIGN KEY REFERENCES PRODUCT(PID),
CID CHAR(5) FOREIGN KEY REFERENCES CUSTOMER(CID));
```

----**** INSERTING DATA INTO TABLES ****

```
INSERT INTO SUPPLIER
VALUES('S0001','ABILASH','2-90 SRINAGAR','DELHI','9023092332','abilash22@gmail.com'),
('S0002','SRIRAM','3-2 CHANDNAGAR','DELHI','9000092332','sriram@gmail.com');
```

```
INSERT INTO SUPPLIER
VALUES('S0003','ANIL KUMAR','1-98 CITYROAD','DELHI','9023123332','anil56@gmail.com'),
('S0004','POORNA','3-2 AGRA','DELHI','9236092332','poorna@gmail.com'),
('S0005','SANTHOSH KUMAR','23-5 UTTHAMNAGAR','DELHI','9016235698','santhosh@gmail.com'),
('S0006','ANJALI','2-98 UTTHAMNAGAR','DELHI','9018963256','anjali@gmail.com'),
('S0007','DHANUSH CHANDHRA','23-5 MAIN ROAD','DELHI','9856235698','dhanush@gmail.com'),
('S0008','SARALA','2-01 M ROAD','DELHI','9016238998','sarala@gmail.com'),
('S0009','KIRAN KUMAR','1-11 METRO NAGAR','DELHI','9015687698','kiran99@gmail.com'),
('S0010','UPENDHAR','89-66 SMART BAZAR','DELHI','9016235620','upendhar@gmail.com');
```

---- FETCHING DATA FROM SUPPLIER TABLE

```
SELECT * FROM SUPPLIER
```

	SID	SNAME	SADDRESS	SCITY	SPHONE	EMAIL
1	S0001	ABILASH	2-90 SRINAGAR	DELHI	9023092332	abilash22@gmail.com
2	S0002	SRIRAM	3-2 CHANDNAGAR	DELHI	9000092332	sriram@gmail.com
3	S0003	ANIL KUMAR	1-98 CITYROAD	DELHI	9023123332	anil56@gmail.com
4	S0004	POORNA	3-2 AGRA	DELHI	9236092332	poorna@gmail.com
5	S0005	SANTHOSH KUMAR	23-5 UTTHAMNAGAR	DELHI	9016235698	santhosh@gmail.com
6	S0006	ANJALI	2-98 UTTHAMNAGAR	DELHI	9018963256	anjali@gmail.com
7	S0007	DHANUSH CHANDHRA	23-5 MAIN ROAD	DELHI	9856235698	dhanush@gmail.com
8	S0008	SARALA	2-01 M ROAD	DELHI	9016238998	sarala@gmail.com
9	S0009	KIRAN KUMAR	1-11 METRO NAGAR	DELHI	9015687698	kiran99@gmail.com
10	S0010	UPENDHAR	89-66 SMART BAZAR	DELHI	9016235620	upendhar@gmail.com

----*** INSERTING DATA INTO PRODUCT TABLE ****

```
INSERT INTO PRODUCT
VALUES('P0001','Mouse Intel pro','1500','IT','S0001'),
('P0002','Laptop Inter celeron 3205U','50000','IT','S0001'),
('P0003','Keyboard Intel Pro 99','1000','IT','S0001'),
('P0004','printer intel','15000','IT','S0001'),
('P0005','Scanner intel pro','10000','IT','S0001'),
('P0006','Sanitizer','1000','HC','S0002'),
('P0007','Mask','1200','HC','S0002');
```

```
( 'P0008', 'Syringes', '1450', 'HC', 'S0003'),
( 'P0009', 'Needles', '2000', 'HC', 'S0004'),
( 'P0010', 'Microwave philiphs', '20000', 'HA', 'S0003'),
( 'P0011', 'Kettle', '3000', 'HA', 'S0004'),
( 'P0012', 'Wahing Machine Panasonic', '20000', 'HA', 'S0005'),
( 'P0013', 'Grinder', '6000', 'HA', 'S0006'),
( 'P0014', 'Television', '21000', 'HA', 'S0010'),
( 'P0015', 'Rice Cooker', '6000', 'HA', 'S0009');
```

---FETCHING DATA FROM PRODUCT TABLE

```
SELECT * FROM PRODUCT
```

	PID	PDESC	PRICE	CATEGORY	SID
1	P0001	Mouse Intel pro	1500	IT	S0001
2	P0002	Laptop Inter celeron 3205U	50000	IT	S0001
3	P0003	keyboard Intel Pro 99	1000	IT	S0001
4	P0004	printer intel	15000	IT	S0001
5	P0005	Scanner intel pro	10000	IT	S0001
6	P0006	Sanitizer	1000	HC	S0002
7	P0007	Mask	1200	HC	S0002
8	P0008	Syringes	1450	HC	S0003
9	P0009	Needles	2000	HC	S0004
10	P0010	Microwave philiphs	20000	HA	S0003
11	P0011	Kettle	3000	HA	S0004
12	P0012	Wahing Machine Panasonic	20000	HA	S0005
13	P0013	Grinder	6000	HA	S0006
14	P0014	Television	21000	HA	S0010
15	P0015	Rice Cooker	6000	HA	S0009

---*** INSERTING DATA INTO STOCK TABLE ****

```
INSERT INTO STOCK
VALUES( 'P0001', '20', '11', '10')

INSERT INTO STOCK
VALUES( 'P0002', '30', '11', '10'),
( 'P0003', '15', '12', '10'),
( 'P0004', '12', '15', '10'),
( 'P0005', '100', '12', '10'),
( 'P0006', '50', '11', '5'),
( 'P0006', '20', '11', '5'),
( 'P0007', '25', '11', '5'),
( 'P0008', '25', '11', '5'),
( 'P0009', '23', '11', '5'),
( 'P0010', '25', '11', '5');
```

--- FETCH DATA FROM STOCK TABLE

```
SELECT * FROM STOCK
```

	PID	SQTY	ROL	MOQ
1	P0001	20	11	10
2	P0002	30	11	10
3	P0003	15	12	10
4	P0004	12	15	10
5	P0005	100	12	10
6	P0006	50	11	5
7	P0006	20	11	5
8	P0007	25	11	5
9	P0008	25	11	5
10	P0009	23	11	5
11	P0010	25	11	5

----INSERTING DATA INTO CUSTOMER TABLE

INSERT INTO CUSTOMER

VALUES('C0001','SARATH KUMAR','AMEERPET','HYD','9236987545','sarath@gmail.com','01-JUL-1989'),
('C0002','RAMESH','HITECH CITY','HYD','9237887545','ramesh@gmail.com','11-AUG-1989'),
('C0003','ANITHA','X ROAD','CHENNAI','9236987578','anitha@gmail.com','21-JUN-1999'),
('C0004','SARATH','AMEERPET','HYD','9236987545','sarath@gmail.com','01-SEP-1986'),
('C0005','SRAVAN KUMAR','RG ROAD','BENGLORE','8936987545','sravan@gmail.com','21-APR-1989'),
('C0006','RAMYA','SH ROAD','CHENNAI','8975987545','ramya@gmail.com','23-JUL-1985'),
('C0007','SAARA','KPHB','HYD','9236987545','saara@gmail.com','01-JUN-1987'),
('C0008','ANAND','JNTU','HYD','9236987540','anand@gmail.com','01-JUN-1989'),
('C0009','MAHESH','SR NAGAR','HYD','9236087545','maheh@gmail.com','01-OCT-1987'),
('C0010','GURUNATH','NEAR METRO STATION','HYD','9230987545','gurunath@gmail.com','01-FEB-1999'),
('C0011','SOWMYA','CROSS ROAD','HYD','9206987545','sowmya@gmail.com','11-JUL-1984');

---*** FETCHING DATA FROM CUSTOMER TABLE***

SELECT * FROM CUSTOMER

	CID	CNAME	ADDRESS	CITY	PHONE	EMAIL	DOB
1	C0001	SARATH KUMAR	AMEERPET	HYD	9236987545	sarath@gmail.com	1989-07-01
2	C0002	RAMESH	HITECH CITY	HYD	9237887545	ramesh@gmail.com	1989-08-11
3	C0003	ANITHA	X ROAD	CHENNAI	9236987578	anitha@gmail.com	1999-06-21
4	C0004	SARATH	AMEERPET	HYD	9236987545	sarath@gmail.com	1986-09-01
5	C0005	SRAVAN KUMAR	RG ROAD	BENGLORE	8936987545	sravan@gmail.com	1989-04-21
6	C0006	RAMYA	SH ROAD	CHENNAI	8975987545	ramya@gmail.com	1985-07-23
7	C0007	SAARA	KPHB	HYD	9236987545	saara@gmail.com	1987-06-01
8	C0008	ANAND	JNTU	HYD	9236987540	anand@gmail.com	1989-06-01
9	C0009	MAHESH	SR NAGAR	HYD	9236087545	maheh@gmail.com	1987-10-01
10	C0010	GURUNATH	NEAR METRO STATION	HYD	9230987545	gurunath@gmail.com	1999-02-01
11	C0011	SOWMYA	CROSS ROAD	HYD	9206987545	sowmya@gmail.com	1984-07-11

---- INSERTING DATA INTO ORDERS TABLE

INSERT INTO ORDERS

```
VALUES('00001','12-JAN-2023','P0001','C0001','1'),
('00002','02-JUL-2023','P0002','C0002','1'),
('00003','12-MAY-2023','P0003','C0003','1'),
('00004','12-OCT-2023','P0004','C0004','1'),
('00005','22-DEC-2023','P0005','C0005','50'),
('00006','25-FEB-2023','P0006','C0006','10'),
('00007','12-JUL-2023','P0005','C0007','10');
```

---- FETCHING DATA FROM ORDERS TABLE

```
SELECT * FROM ORDERS
```

	OID	ODATE	PID	CID	OQTY
1	O0001	2023-01-12	P0001	C0001	1
2	O0002	2023-07-02	P0002	C0002	1
3	O0003	2023-05-12	P0003	C0003	1
4	O0004	2023-10-12	P0004	C0004	1
5	O0005	2023-12-22	P0005	C0005	50
6	O0006	2023-02-25	P0006	C0006	10
7	O0007	2023-07-12	P0005	C0007	10

--- CREATING VIEW

```
CREATE VIEW BILL
```

```
AS
```

```
SELECT O.OID,O.ODATE,O.OQTY ,C.CNAME,C.ADDRESS,C.PHONE,P.PDESC,P.PRICE, O.OQTY * P.PRICE
```

```
AS AMOUNT
```

```
FROM CUSTOMER C
```

```
JOIN
```

```
ORDERS O
```

```
ON C.CID = O.CID
```

```
JOIN
```

```
PRODUCT P
```

```
ON O.PID = P.PID
```

```
SELECT * FROM BILL
```

	OID	ODATE	OQTY	CNAME	ADDRESS	PHONE	PDESC	PRICE	AMOUNT
1	O0001	2023-01-12	1	SARATH KUMAR	AMEERPET	9236987545	Mouse Intel pro	1500	1500
2	O0002	2023-07-02	1	RAMESH	HITECH CITY	9237887545	Laptop Inter celeron 3205U	50000	50000
3	O0003	2023-05-12	1	ANITHA	X ROAD	9236987578	keyboard Intel Pro 99	1000	1000
4	O0004	2023-10-12	1	SARATH	AMEERPET	9236987545	printer intel	15000	15000
5	O0005	2023-12-22	50	SRAVAN KUMAR	RG ROAD	8936987545	Scanner intel pro	10000	500000
6	O0006	2023-02-25	10	RAMYA	SH ROAD	8975987545	Sanitizer	1000	10000
7	O0007	2023-07-12	10	SAARA	KPHB	9236987545	Scanner intel pro	10000	100000

```
/* create procedure - name given to a pre written code,stored procedure is prepared sql
code that we save so we can re use
over and over again instead of writing query each time*/
```

--By using procedure inserting data into tables

SELECT * FROM SUPPLIER

```
CREATE PROCEDURE ADDSUPPLIER
@SID as CHAR(5),@SNAME as VARCHAR(20),@SADDRESS as VARCHAR(50),@SCITY as
VARCHAR(20),@SPHONE CHAR(10),@EMAIL VARCHAR(50)
AS
BEGIN
SET NOCOUNT ON
INSERT INTO SUPPLIER
VALUES(@SID,@SNAME,@SADDRESS,@SCITY,@SPHONE,@EMAIL)
END;
```

ADDSUPPLIER 'S0011', 'VIKRANTH REDDY', 'X-ROAD', 'MUMBAI', '9875463698', 'vikranth@gmail.com'

ADDSUPPLIER 'S0012', 'RAAJEEV', 'MSR-ROAD', 'KOLKATHA', '8975463698', 'raajeev@gmail.com'

SELECT * FROM SUPPLIER

SELECT * FROM PRODUCT

```
CREATE PROCEDURE ADDPRO
@PID as CHAR(5),@PDSC as VARCHAR(50),@PRICE as INT,@CATEGORY as CHAR(2),@SID AS CHAR(5)
AS
BEGIN
SET NOCOUNT ON
INSERT INTO PRODUCT
VALUES(@PID,@PDSC,@PRICE,@CATEGORY,@SID)
END;
```

ADDPRO 'P0016', 'JUICER', 1000, 'HA', 'S0009'

ADDPRO 'P0017', 'BLENDER', 800, 'HA', 'S0009'

ADDPRO 'P0018', 'MEDICINE', 8000, 'HC', 'S0001'

ADDPRO 'P0019', 'MOBILE', 1000, 'IT', 'S0007'

ADDPRO 'P0020', 'FAN', 1000, 'HA', 'S0010'

SELECT * FROM CUSTOMER

```
CREATE PROCEDURE ADDCUST
@CID as CHAR(5),@CNAME as VARCHAR(20),@ADDRESS as VARCHAR(20),@CITY as VARCHAR(10),@PHONE
as CHAR(10),@EMAIL VARCHAR(50),@DOB as DATE
AS
BEGIN
SET NOCOUNT ON
INSERT INTO CUSTOMER
VALUES(@CID,@CNAME,@ADDRESS,@CITY,@PHONE,@EMAIL,@DOB)
END;
```

ADDCUST 'C0012', 'VIKRANTH REDDY', 'HITECH CITY', 'MUMBAI', '7575463698', 'vikranth@gmail.com', '12-jan-1998';

ADDCUST 'C0013', 'SARANYA', 'BANZARA HILLS', 'HYD', '9075463698', 'saranya@gmail.com', '15-mar-1987';

ADDCUST 'C0014', 'RAGHU RAM', 'HITECH CITY', 'MUMBAI', '7570063698', 'raghu@gmail.com', '12-oct-1998';

```
ADDCUST 'C0015', 'SUNEETHA RANI', 'BANZARA  
HILLS', 'HYDERBAD', '9075463692', 'suneetha@gmail.com', '12-mar-1984';
```

```
-----  
-----  
SELECT * FROM ORDERS
```

```
CREATE PROCEDURE ADDORDER  
@OID as CHAR(5), @ODATE as DATE, @PID as CHAR(5), @CID as CHAR(5), @OQTY AS INT  
AS  
BEGIN  
SET NOCOUNT ON  
INSERT INTO ORDERS(OID, ODATE, PID, CID, OQTY)  
VALUES(@OID, GETDATE(), @PID, @CID, @OQTY)  
END;
```

```
---DROP PROCEDURE ADDORDER  
/*INSERTING DATA BY USING PROCEDURE*/  
ADDORDER '00008', '', 'P0001', 'C0002', '5'  
ADDORDER '00009', '', 'P0002', 'C0003', '15'
```

```
/* DROPPING PROCEDURES*/
```

```
DROP PROCEDURE ADDSUPPLIER  
DROP PROCEDURE ADDPRO  
DROP PROCEDURE ADDCUST  
DROP PROCEDURE ADDORDER
```

```
---USING FUNCTIONS AND PROCEDURES FOR INSERTING DATA INTO TABLES---
```

```
-----  
/* function for creating SID*/
```

```
CREATE FUNCTION GenerateSID()  
RETURNS CHAR(5)  
AS  
BEGIN  
    DECLARE @NewID CHAR(5);  
  
    -- Generate new SID  
    SELECT @NewID = RIGHT('S' + RIGHT('0000' + CAST(ISNULL(MAX(CAST(SUBSTRING(SID, 2, 5)  
AS INT)), 0) + 1 AS VARCHAR(5)), 4), 5)  
    FROM SUPPLIER;  
  
    RETURN @NewID;  
END;
```

```
/* function for creating PID*/
```

```
DROP FUNCTION GeneratePID  
CREATE FUNCTION GeneratePID()  
RETURNS CHAR(5)  
AS  
BEGIN  
    DECLARE @NewID CHAR(5);
```

```

-- Generate new PID
SELECT @NewID = RIGHT('P' + RIGHT('0000' + CAST(ISNULL(MAX(CAST(SUBSTRING(PID, 2, 5)
AS INT)), 0) + 1 AS VARCHAR(5)), 4), 5)
FROM PRODUCT;

RETURN @NewID;
END;

/* function for creating CID*/

CREATE FUNCTION GenerateCID()
RETURNS CHAR(5)
AS
BEGIN
    DECLARE @NewID CHAR(5);

    -- Generate new CID
    SELECT @NewID = RIGHT('C' + RIGHT('0000' + CAST(ISNULL(MAX(CAST(SUBSTRING(CID, 2, 5)
AS INT)), 0) + 1 AS VARCHAR(5)), 4), 5)
    FROM CUSTOMER;

    RETURN @NewID;
END;

/* function for creating OID*/

CREATE FUNCTION GenerateOID()
RETURNS CHAR(5)
AS
BEGIN
    DECLARE @NewID CHAR(5);

    -- Generate new OID
    SELECT @NewID = RIGHT('O' + RIGHT('0000' + CAST(ISNULL(MAX(CAST(SUBSTRING(OID, 2, 5)
AS INT)), 0) + 1 AS VARCHAR(5)), 4), 5)
    FROM ORDERS;

    RETURN @NewID;
END;
-----
DROP PROCEDURE ADDSUPPLIER

CREATE PROCEDURE ADDSUPPLIER
    @SNAME VARCHAR(20),
    @SADDRESS VARCHAR(50),
    @SCITY VARCHAR(20) = 'DELHI',
    @SPHONE CHAR(10),
    @EMAIL VARCHAR(50)
AS
BEGIN
    SET NOCOUNT ON;
    DECLARE @SID CHAR(5) = dbo.GenerateSID();

    INSERT INTO SUPPLIER (SID, SNAME, SADDRESS, SCITY, SPHONE, EMAIL)
    VALUES (@SID, @SNAME, @SADDRESS, @SCITY, @SPHONE, @EMAIL);
END;

```



```

-- Usage
EXEC ADDSUPPLIER 'VIKAS REDDY', 'M-ROAD', 'PUNE', '9700044698', 'vikas@gmail.com';

EXEC ADDSUPPLIER 'SRIDHAR REDDY', 'MHS-CROSS ROAD', 'DELHI', '9701163698',
'sridhar@gmail.com';

-----

CREATE PROCEDURE ADDPRO
    @PDSC VARCHAR(50),
    @PRICE INT,
    @CATEGORY CHAR(2),
    @SID CHAR(5)
AS
BEGIN
    SET NOCOUNT ON;
    DECLARE @PID CHAR(5) = dbo.GeneratePID();

    INSERT INTO PRODUCT (PID, PDESC, PRICE, CATEGORY, SID)
    VALUES (@PID, @PDSC, @PRICE, @CATEGORY, @SID);
END;

-- Usage
EXEC ADDPRO 'COOKER', 1000, 'HA', 'S0009';

-----

CREATE PROCEDURE ADDCUST
    @CNAME VARCHAR(20),
    @ADDRESS VARCHAR(20),
    @CITY VARCHAR(10),
    @PHONE CHAR(10),
    @EMAIL VARCHAR(50),
    @DOB DATE
AS
BEGIN
    SET NOCOUNT ON;

    DECLARE @NewCID CHAR(5) = dbo.GenerateCID();

    INSERT INTO CUSTOMER (CID, CNAME, ADDRESS, CITY, PHONE, EMAIL, DOB)
    VALUES (@NewCID, @CNAME, @ADDRESS, @CITY, @PHONE, @EMAIL, @DOB);
END;

-- Usage example:
EXEC ADDCUST 'VIMALA', 'GMS CITY', 'MUMBAI', '7575463690', 'vimala@gmail.com', '1997-01-12';

-----

CREATE PROCEDURE ADDORDER
    @CID CHAR(5),
    @PID CHAR(5),
    @OQTY INT
AS
BEGIN
    SET NOCOUNT ON;
    DECLARE @OID CHAR(5) = dbo.GenerateOID();

    INSERT INTO ORDERS (OID, ODATE, PID, CID, OQTY)

```

```
VALUES (@OID, GETDATE(), @PID, @CID, @OQTY);  
END;
```

```
-- Usage
```

```
EXEC ADDORDER 'C0002', 'P0001', 5;  
EXEC ADDORDER 'C0002', 'P0001', 10;
```

```
SELECT * FROM SUPPLIER  
SELECT * FROM PRODUCT  
SELECT * FROM CUSTOMER  
SELECT * FROM ORDERS  
SELECT * FROM STOCK
```

```
----- TRIGGER
```

```
CREATE TRIGGER trg_UpdateStock  
ON ORDERS  
AFTER INSERT  
AS  
BEGIN  
    SET NOCOUNT ON;  
    UPDATE STOCK  
    SET SQTY = SQTY - i.OQTY  
    FROM STOCK s  
    INNER JOIN inserted i ON s.PID = i.PID  
    WHERE s.PID = i.PID;  
END;
```