Product

product_key: VARCHAR(3) NOT NULL	[PK]

- product_name: VARCHAR(4)   NOT NULL
- product_code: VARCHAR(4)   NOT NULL
- product_line: VARCHAR(3)   NOT NULL
- brand: VARCHAR(4)   NOT NULL
- department: VARCHAR(4)   NOT NULL

Store

store_key_pk: VARCHAR(2) NOT NULL	[PK]

- store_name: VARCHAR(4)   NOT NULL
- store_code: VARCHAR(4)   NOT NULL
- address: VARCHAR(4)   NOT NULL
- state: VARCHAR(2)   NOT NULL
- zip: NUMERIC(6)   NOT NULL
- manager_name: VARCHAR(5)   NOT NULL

Sales

- sales_key_pk: VARCHAR(4)   NOT NULL [PK]
- store_key_pk: VARCHAR(2)   NOT NULL [PFK]
- promotion_key_pk: VARCHAR(4)   NOT NULL [PFK]
- time_key_pk: NUMERIC(2)   NOT NULL [PFK]
- product_key: VARCHAR(3)   NOT NULL [PFK]

- sold_quantites: NUMERIC(3)   NOT NULL
- net_sales: NUMERIC(3)   NOT NULL
- gross_sales: VARCHAR(2)   NOT NULL
- cost: NUMERIC(4)   NOT NULL
- store_coupon_amt: VARCHAR(4)   NOT NULL
- mfr_coupon_amt: NUMERIC(4)   NOT NULL

Time

time_key_pk: NUMERIC(2) NOT NULL	[PK]

- date1: VARCHAR(2)   NOT NULL
- week_number: NUMERIC(2)   NOT NULL
- month: VARCHAR(3)   NOT NULL
- month_number: NUMERIC(2)   NOT NULL
- fiscal_period: NUMERIC(2)   NOT NULL
- quarter: NUMERIC(1)   NOT NULL
- year: NUMERIC(2)   NOT NULL
- day_number: NUMERIC(2)   NOT NULL
- day_of_week: VARCHAR(3)   NOT NULL

Promotion

promotion_key_pk: VARCHAR(4) NOT NULL	[

- promotion_type: VARCHAR(3)   NOT NULL
- promotion_medium: VARCHAR(3)   NOT NULL
- discount_rate: NUMERIC(2)   NOT NULL
- promotion_code: VARCHAR(4)   NOT NULL

```sql
CREATE TABLE Promotion (
                promotion_key_pk VARCHAR2(4) NOT NULL,
                promotion_type VARCHAR2(3) NOT NULL,
                promotion_medium VARCHAR2(3) NOT NULL,
                discount_rate NUMBER(2) NOT NULL,
                promotion_code VARCHAR2(4) NOT NULL,
                CONSTRAINT PROMOTION_KEY_PK PRIMARY KEY
(promotion_key_pk)
);


CREATE TABLE Store (
                store_key_pk VARCHAR2(2) NOT NULL,
                store_name VARCHAR2(4) NOT NULL,
                store_code VARCHAR2(4) NOT NULL,
                address VARCHAR2(4) NOT NULL,
                state VARCHAR2(2) NOT NULL,
                zip NUMBER(6) NOT NULL,
                manager_name VARCHAR2(5) NOT NULL,
                CONSTRAINT STORE_KEY_PK PRIMARY KEY (store_key_pk)
);


CREATE TABLE Product (
                product_key_pk VARCHAR2(3) NOT NULL,
                product_name VARCHAR2(4) NOT NULL,
                product_code VARCHAR2(4) NOT NULL,
                product_line VARCHAR2(3) NOT NULL,
                brand VARCHAR2(4) NOT NULL,
                department VARCHAR2(4) NOT NULL,
                CONSTRAINT PRODUCT_KEY_PK PRIMARY KEY (product_key_pk)
);


CREATE TABLE Time (
                time_key_pk NUMBER(2) NOT NULL,
                date1 VARCHAR2(2) NOT NULL,
                week_number NUMBER(2) NOT NULL,
                month VARCHAR2(3) NOT NULL,
                month_number NUMBER(2) NOT NULL,
                fiscal_period NUMBER(2) NOT NULL,
                quarter NUMBER(1) NOT NULL,
                year NUMBER(2) NOT NULL,
                day_number NUMBER(2) NOT NULL,
                day_of_week VARCHAR2(3) NOT NULL,
                CONSTRAINT TIME1_PK PRIMARY KEY (time_key_pk)
);


CREATE TABLE Sales (
                sales_key_pk VARCHAR2(4) NOT NULL,
                store_key_pk VARCHAR2(2) NOT NULL,
                promotion_key_pk VARCHAR2(4) NOT NULL,
                time_key_pk NUMBER(2) NOT NULL,
                product_key VARCHAR2(3) NOT NULL,
                sold_quantites NUMBER(3) NOT NULL,
                net_sales NUMBER(3) NOT NULL,
                gross_sales VARCHAR2(2) NOT NULL,
                cost NUMBER(4) NOT NULL,
```
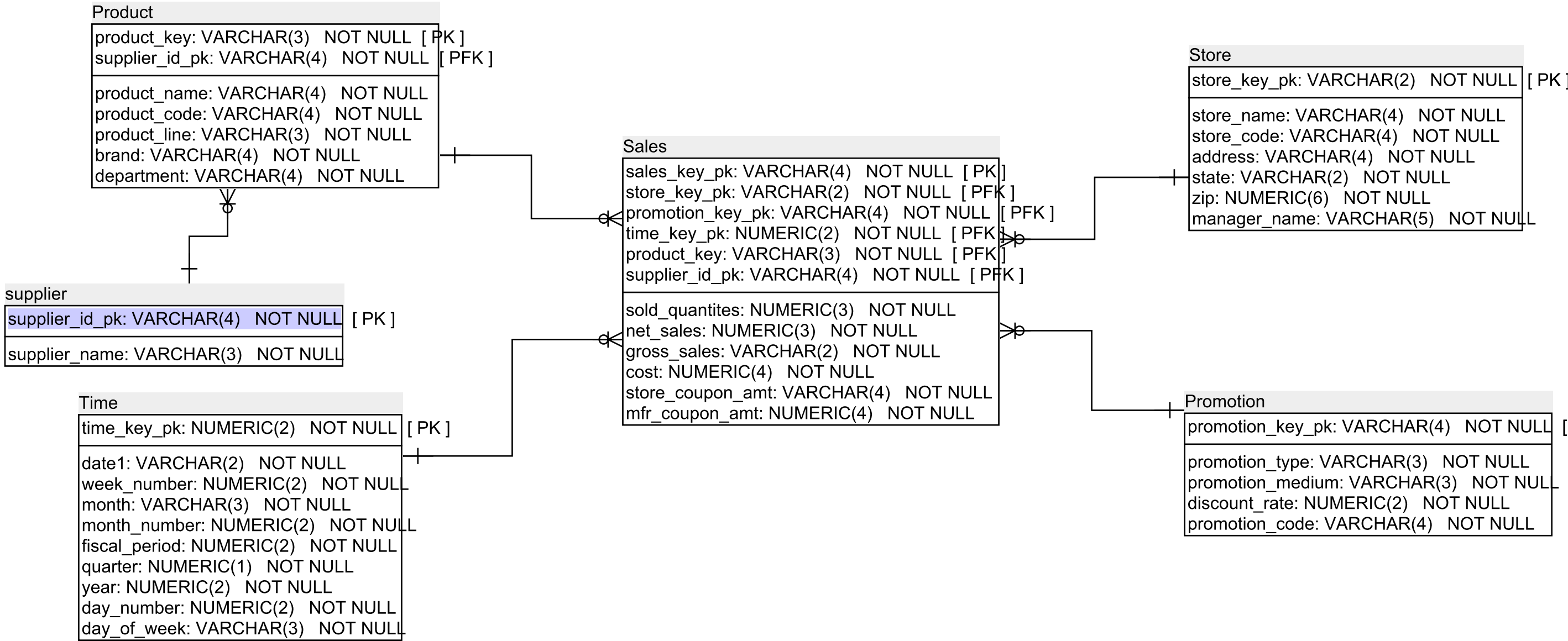
```
                store_coupon_amt VARCHAR2(4) NOT NULL,
                mfr_coupon_amt NUMBER(4) NOT NULL,
                CONSTRAINT SALES_PK PRIMARY KEY (sales_key_pk,
store_key_pk, promotion_key_pk, time_key_pk, product_key)
);


ALTER TABLE Sales ADD CONSTRAINT PROMOTION_SALES_FK
FOREIGN KEY (promotion_key_pk)
REFERENCES Promotion (promotion_key_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT STORE_SALES_FK
FOREIGN KEY (store_key_pk)
REFERENCES Store (store_key_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT PRODUCT_SALES_FK
FOREIGN KEY (product_key)
REFERENCES Product (product_key_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT TIME_SALES_FK
FOREIGN KEY (time_key_pk)
REFERENCES Time (time_key_pk)
NOT DEFERRABLE;
```

Product

product_key: VARCHAR(3) NOT NULL [PK]	
supplier_id_pk: VARCHAR(4) NOT NULL [PFK]	

product_name: VARCHAR(4) NOT NULL
product_code: VARCHAR(4) NOT NULL
product_line: VARCHAR(3) NOT NULL
brand: VARCHAR(4) NOT NULL
department: VARCHAR(4) NOT NULL

supplier

supplier_id_pk: VARCHAR(4) NOT NULL [PK]

supplier_name: VARCHAR(3) NOT NULL

Time

time_key_pk: NUMERIC(2) NOT NULL [PK]

date1: VARCHAR(2) NOT NULL
week_number: NUMERIC(2) NOT NULL
month: VARCHAR(3) NOT NULL
month_number: NUMERIC(2) NOT NULL
fiscal_period: NUMERIC(2) NOT NULL
quarter: NUMERIC(1) NOT NULL
year: NUMERIC(2) NOT NULL
day_number: NUMERIC(2) NOT NULL
day_of_week: VARCHAR(3) NOT NULL

Sales

sales_key_pk: VARCHAR(4) NOT NULL [PK]
store_key_pk: VARCHAR(2) NOT NULL [PFK]
promotion_key_pk: VARCHAR(4) NOT NULL [PFK]
time_key_pk: NUMERIC(2) NOT NULL [PFK]
product_key: VARCHAR(3) NOT NULL [PFK]
supplier_id_pk: VARCHAR(4) NOT NULL [PFK]

sold_quantites: NUMERIC(3) NOT NULL
net_sales: NUMERIC(3) NOT NULL
gross_sales: VARCHAR(2) NOT NULL
cost: NUMERIC(4) NOT NULL
store_coupon_amt: VARCHAR(4) NOT NULL
mfr_coupon_amt: NUMERIC(4) NOT NULL

Store

store_key_pk: VARCHAR(2) NOT NULL [PK]

store_name: VARCHAR(4) NOT NULL
store_code: VARCHAR(4) NOT NULL
address: VARCHAR(4) NOT NULL
state: VARCHAR(2) NOT NULL
zip: NUMERIC(6) NOT NULL
manager_name: VARCHAR(5) NOT NULL

Promotion

promotion_key_pk: VARCHAR(4) NOT NULL [

promotion_type: VARCHAR(3) NOT NULL
promotion_medium: VARCHAR(3) NOT NULL
discount_rate: NUMERIC(2) NOT NULL
promotion_code: VARCHAR(4) NOT NULL

```sql
CREATE TABLE supplier (
            supplier_id_pk VARCHAR2(4) NOT NULL,
            supplier_name VARCHAR2(3) NOT NULL,
            CONSTRAINT SUPPLIER_PK PRIMARY KEY (supplier_id_pk)
);


CREATE TABLE Promotion (
            promotion_key_pk VARCHAR2(4) NOT NULL,
            promotion_type VARCHAR2(3) NOT NULL,
            promotion_medium VARCHAR2(3) NOT NULL,
            discount_rate NUMBER(2) NOT NULL,
            promotion_code VARCHAR2(4) NOT NULL,
            CONSTRAINT PROMOTION_KEY_PK PRIMARY KEY
(promotion_key_pk)
);


CREATE TABLE Store (
            store_key_pk VARCHAR2(2) NOT NULL,
            store_name VARCHAR2(4) NOT NULL,
            store_code VARCHAR2(4) NOT NULL,
            address VARCHAR2(4) NOT NULL,
            state VARCHAR2(2) NOT NULL,
            zip NUMBER(6) NOT NULL,
            manager_name VARCHAR2(5) NOT NULL,
            CONSTRAINT STORE_KEY_PK PRIMARY KEY (store_key_pk)
);


CREATE TABLE Product (
            product_key_pk VARCHAR2(3) NOT NULL,
            supplier_id_pk VARCHAR2(4) NOT NULL,
            product_name VARCHAR2(4) NOT NULL,
            product_code VARCHAR2(4) NOT NULL,
            product_line VARCHAR2(3) NOT NULL,
            brand VARCHAR2(4) NOT NULL,
            department VARCHAR2(4) NOT NULL,
            CONSTRAINT PRODUCT_KEY_PK PRIMARY KEY (product_key_pk,
supplier_id_pk)
);


CREATE TABLE Time (
            time_key_pk NUMBER(2) NOT NULL,
            date1 VARCHAR2(2) NOT NULL,
            week_number NUMBER(2) NOT NULL,
            month VARCHAR2(3) NOT NULL,
            month_number NUMBER(2) NOT NULL,
            fiscal_period NUMBER(2) NOT NULL,
            quarter NUMBER(1) NOT NULL,
            year NUMBER(2) NOT NULL,
            day_number NUMBER(2) NOT NULL,
            day_of_week VARCHAR2(3) NOT NULL,
            CONSTRAINT TIME1_PK PRIMARY KEY (time_key_pk)
);


CREATE TABLE Sales (
```

```
            sales_key_pk VARCHAR2(4) NOT NULL,
            store_key_pk VARCHAR2(2) NOT NULL,
            promotion_key_pk VARCHAR2(4) NOT NULL,
            time_key_pk NUMBER(2) NOT NULL,
            product_key VARCHAR2(3) NOT NULL,
            supplier_id_pk VARCHAR2(4) NOT NULL,
            sold_quantites NUMBER(3) NOT NULL,
            net_sales NUMBER(3) NOT NULL,
            gross_sales VARCHAR2(2) NOT NULL,
            cost NUMBER(4) NOT NULL,
            store_coupon_amt VARCHAR2(4) NOT NULL,
            mfr_coupon_amt NUMBER(4) NOT NULL,
            CONSTRAINT SALES_PK PRIMARY KEY (sales_key_pk,
store_key_pk, promotion_key_pk, time_key_pk, product_key, supplier_id_pk)
);


ALTER TABLE Product ADD CONSTRAINT SUPPLIER_PRODUCT_FK
FOREIGN KEY (supplier_id_pk)
REFERENCES supplier (supplier_id_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT PROMOTION_SALES_FK
FOREIGN KEY (promotion_key_pk)
REFERENCES Promotion (promotion_key_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT STORE_SALES_FK
FOREIGN KEY (store_key_pk)
REFERENCES Store (store_key_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT PRODUCT_SALES_FK
FOREIGN KEY (product_key, supplier_id_pk)
REFERENCES Product (product_key_pk, supplier_id_pk)
NOT DEFERRABLE;

ALTER TABLE Sales ADD CONSTRAINT TIME_SALES_FK
FOREIGN KEY (time_key_pk)
REFERENCES Time (time_key_pk)
NOT DEFERRABLE;
```