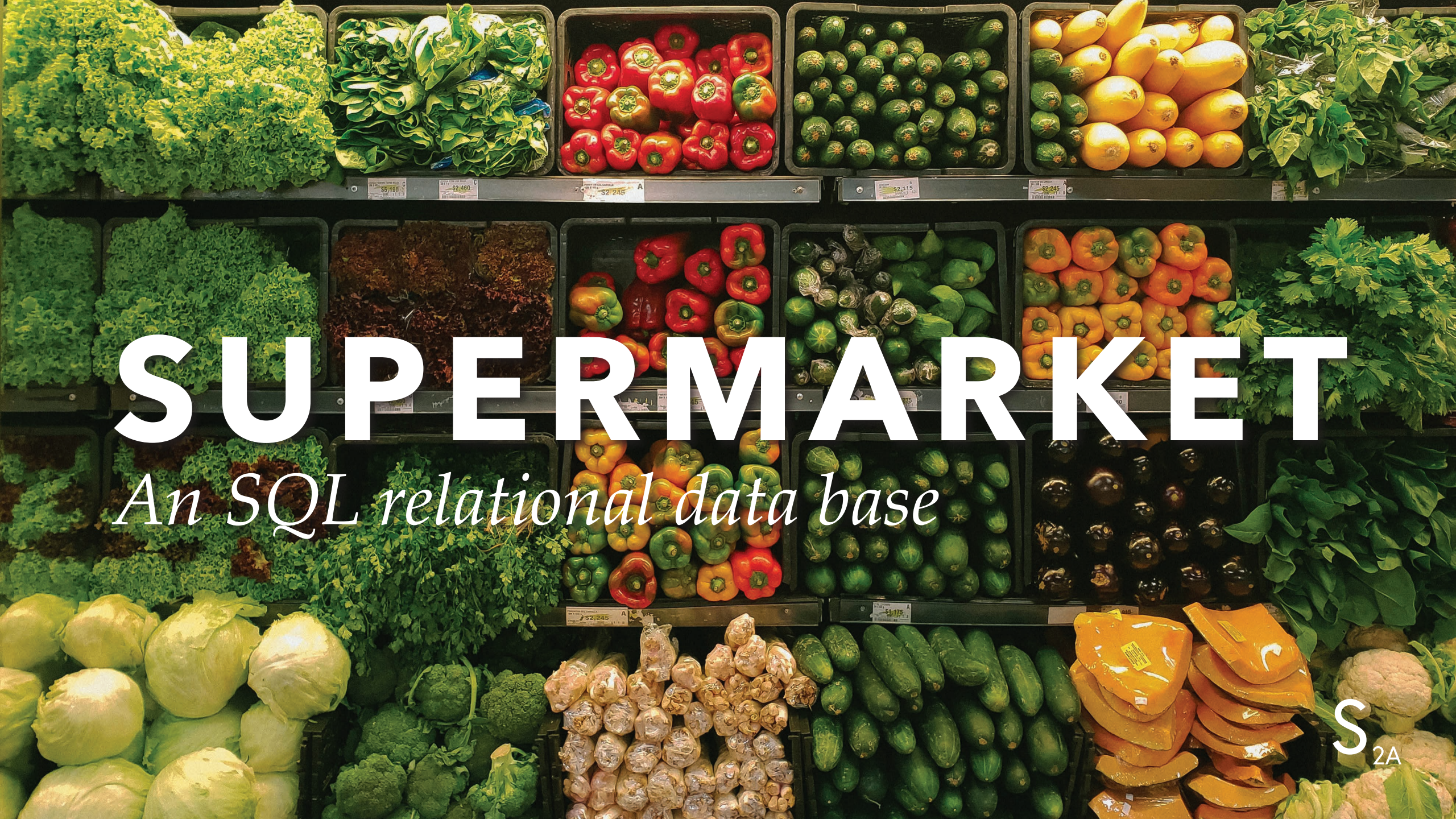


SUPERMARKET

An SQL relational data base

S2A

Supermarket

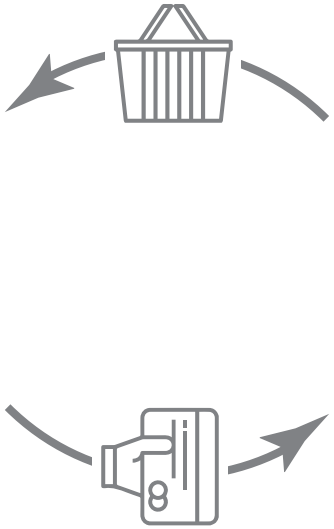
S2A

Suppliers

S2A


Employees

Customers



S2A

Economic forces

Competitors

Regulators

Marketing Intermediaries

Interest groups

Technology

Politics

Demographics

S2A

Advantages of a Relational Database

Understand past performance

Data-driven decisions

Forecast future

S2A

Product

Sales

Location

Payment

Ticket

Customer

Employee

S2A


Product
Product_ID
Sales
Sales_ID
Location
Location_ID
Payment
Payment_ID
Ticket
Ticket_ID
Customer
Customer_ID
Employee
Employee_ID

Location
Location_ID
City
Country
Branch name

Product
Product_ID
Name
Price
Cost
Brand
Category

Sales
Sales_ID
Product quantity

Payment
Payment_ID
Type
Brand

Ticket
Ticket_ID
Date

Customer
Customer_ID
First name
Surname
Gender
Type
DOB

Employee
Employee_ID
First name
Surname
Start date
Department

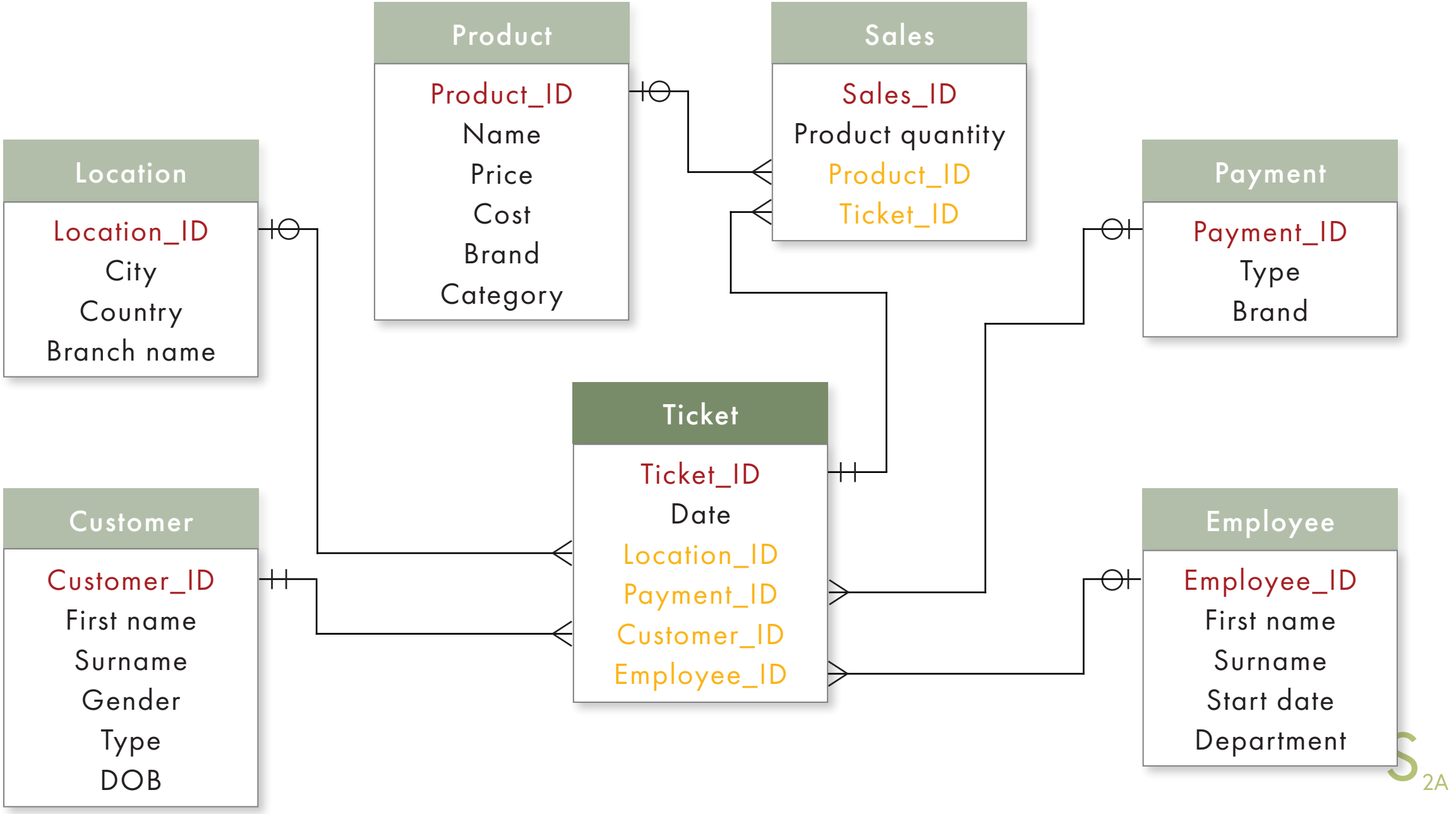

Product
Product_ID
Name
Price
Cost
Brand
Category
Sales
Sales_ID
Product quantity
Product_ID
Ticket_ID
Location
Location_ID
City
Country
Branch name
Payment
Payment_ID
Type
Brand
Ticket
Ticket_ID
Date
Location_ID
Payment_ID
Customer_ID
Employee_ID
Customer
Customer_ID
First name
Surname
Gender
Type
DOB
Employee
Employee_ID
First name
Surname
Start date
Department

TABLE NAME	ATTRIBUTES	DATA TYPE	NULL
Location	Location_ID	VARCHAR(11)	NO
	City	VARCHAR(15)	NO
	Country	VARCHAR(15)	NO
	Branch name	VARCHAR(6)	NO
Customer	Customer_ID	VARCHAR(11)	NO
	First name	VARCHAR(15)	NO
	Surname	VARCHAR(15)	NO
	Gender	VARCHAR(6)	NO
	Type	VARCHAR(6)	NO
	DOB	DATE	YES
Product	Product_ID	VARCHAR(11)	NO
	Name	VARCHAR(25)	NO
	Price	DECIMAL(4,2)	NO
	Cost	DECIMAL(4,2)	NO
	Brand	VARCHAR(25)	NO
	Category	VARCHAR(25)	NO

TABLE NAME	ATTRIBUTES	DATA TYPE	NULL
Employee	Employee_ID	VARCHAR(11)	NO
	First name	VARCHAR(15)	NO
	Surname	VARCHAR(15)	NO
	Start date	DATE	NO
	Department	VARCHAR(6)	NO
Payment	Payment_ID	VARCHAR(11)	NO
	Type	VARCHAR(20)	NO
	Brand	VARCHAR(20)	NO
Ticket	Ticket_ID	VARCHAR(11)	NO
	Date	DATE	NO
	Location_ID	VARCHAR(11)	NO
	Payment_ID	VARCHAR(11)	NO
	Customer_ID	VARCHAR(11)	YES
	Employee_ID	VARCHAR(11)	NO

S2A

TABLE NAME	ATTRIBUTES	DATA TYPE	NULL
Sales	Sales_ID	VARCHAR(11)	NO
	Product quantity	INT	NO
	Product_ID	VARCHAR(11)	NO
	Ticket_ID	VARCHAR(11)	NO

S2A

Question 1

WHICH ARE THE TOP 3 PRODUCTS SOLD?

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

```
SELECT PRODUCT_NAME, SUM(PRODUCT_QUANTITY *
PRODUCT_PRICE) AS SALES
```

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

```
SELECT PRODUCT_NAME, SUM(PRODUCT_QUANTITY *
PRODUCT_PRICE) AS SALES FROM PRODUCT  P, SALES S
```

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

```
SELECT PRODUCT_NAME, SUM(PRODUCT_QUANTITY *
PRODUCT_PRICE) AS SALES  FROM PRODUCT  P, SALES S
WHERE P.PRODUCT_ID = S.PRODUCT_ID
```

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

```
SELECT PRODUCT_NAME, SUM(PRODUCT_QUANTITY *
PRODUCT_PRICE) AS SALES  FROM PRODUCT  P, SALES S
WHERE P.PRODUCT_ID = S.PRODUCT_ID GROUP BY
PRODUCT_NAME
```

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

```
SELECT PRODUCT_NAME, SUM(PRODUCT_QUANTITY *
PRODUCT_PRICE) AS SALES  FROM PRODUCT  P, SALES S
WHERE P.PRODUCT_ID = S.PRODUCT_ID GROUP BY
PRODUCT_NAME ORDER BY SALES DESC
```

S2A

WHICH ARE THE TOP 3 PRODUCTS SOLD?

Product
Product_ID
Product_name
Product_price

Sales
Product_quantity
Product_ID

```
SELECT PRODUCT_NAME, SUM(PRODUCT_QUANTITY *
PRODUCT_PRICE) AS SALES  FROM PRODUCT  P, SALES S
WHERE P.PRODUCT_ID = S.PRODUCT_ID GROUP BY
PRODUCT_NAME ORDER BY SALES DESC LIMIT 3
```

S2A

DEMO

S2A

```
PRODUCT_NAME                SALES
--------------------------- ------------------------------
LANGOSTINO x 500G                                    52.50
CERVEZA SIXPACK                                      38.08
NESCAFE NATU100                                      37.51

  3 record(s) selected.
```

S2A

Question 2

SHOW THE REVENUE PER TYPE OF CREDIT CARD.

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD

Ticket

Ticket_ID
Payment_ID

Product

Product_ID
Product_price

Sales

Product_quantity
Ticket_ID
Product_ID

Payment

Payment_ID
Payment_brand
Payment_type

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD


```
SELECT PAYMENT_BRAND, SUM(PRODUCT_PRICE *
PRODUCT_QUANTITY) AS SALES
```

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD

```
SELECT PAYMENT_BRAND, SUM(PRODUCT_PRICE *
PRODUCT_QUANTITY) AS SALES FROM TICKET T, SALES
S, PRODUCT PR, PAYMENT P
```

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD


```
SELECT PAYMENT_BRAND, SUM(PRODUCT_PRICE *
PRODUCT_QUANTITY) AS SALES FROM TICKET T, SALES
S, PRODUCT PR, PAYMENT P WHERE T.TICKET_ID =
S.TICKET_ID AND S.PRODUCT_ID = PR.PRODUCT_ID AND
P.PAYMENT_ID = T.PAYMENT_ID
```

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD


```
SELECT PAYMENT_BRAND, SUM(PRODUCT_PRICE *
PRODUCT_QUANTITY) AS SALES FROM TICKET T, SALES
S, PRODUCT PR, PAYMENT P WHERE T.TICKET_ID =
S.TICKET_ID AND S.PRODUCT_ID = PR.PRODUCT_ID AND
P.PAYMENT_ID = T.PAYMENT_ID GROUP BY PAYMENT_
BRAND, PAYMENT_TYPE
```

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD


```
SELECT PAYMENT_BRAND, SUM(PRODUCT_PRICE *
PRODUCT_QUANTITY) AS SALES FROM TICKET T, SALES
S, PRODUCT PR, PAYMENT P WHERE T.TICKET_ID =
S.TICKET_ID AND S.PRODUCT_ID = PR.PRODUCT_ID AND
P.PAYMENT_ID = T.PAYMENT_ID GROUP BY PAYMENT_
BRAND, PAYMENT_TYPE HAVING PAYMENT_TYPE =
'CREDIT_CARD'
```

S2A

SHOW THE REVENUE PER TYPE OF CREDIT CARD

Ticket

Ticket_ID
Payment_ID

Product

Product_ID
Product_price

Sales

Product_quantity
Ticket_ID
Product_ID

Payment

Payment_ID
Payment_brand
Payment_type

```
SELECT PAYMENT_BRAND, SUM(PRODUCT_PRICE *
PRODUCT_QUANTITY) AS SALES FROM TICKET T, SALES
S, PRODUCT PR, PAYMENT P WHERE T.TICKET_ID =
S.TICKET_ID AND S.PRODUCT_ID = PR.PRODUCT_ID AND
P.PAYMENT_ID = T.PAYMENT_ID GROUP BY PAYMENT_
BRAND, PAYMENT_TYPE HAVING PAYMENT_TYPE =
'CREDIT_CARD' ORDER BY SALES DESC
```

S2A

S2A

```
PAYMENT_BRAND        SALES
-------------------- ------------------------------------
MASTER CARD                                         68.66
VISA                                                26.21
AMERICAN EXPRESS                                    24.59

  3 record(s) selected.
```

Question 3

WHAT IS THE AVERAGE AMOUNT SPENT PER PURCHASE?

S2A

WHAT IS THE AVERAGE AMOUNT SPENT PER PURCHASE?

Ticket
COUNT

Product
Product_ID
Product_price

Sales
Product_quantity
Product_ID

S2A

WHAT IS THE AVERAGE AMOUNT SPENT PER PURCHASE?

Ticket
COUNT

Product
Product_ID
Product_price

Sales
Product_quantity
Product_ID

SELECT SUM(PRODUCT_PRICE * PRODUCT_QUANTITY)

S2A

WHAT IS THE AVERAGE AMOUNT SPENT PER PURCHASE?

Ticket
COUNT

Product
Product_ID
Product_price

Sales
Product_quantity
Product_ID

```
SELECT SUM(PRODUCT_PRICE * PRODUCT_QUANTITY)
/ (SELECT COUNT(*) FROM TICKET) AS AVERAGE
```

S2A

WHAT IS THE AVERAGE AMOUNT SPENT PER PURCHASE?

Ticket
COUNT

Product
Product_ID
Product_price

Sales
Product_quantity
Product_ID

```
SELECT SUM(PRODUCT_PRICE * PRODUCT_QUANTITY)
/ (SELECT COUNT(*) FROM TICKET) AS AVERAGE FROM
SALES S, PRODUCT P
```

S2A

WHAT IS THE AVERAGE AMOUNT SPENT PER PURCHASE?

Ticket
COUNT

Product
Product_ID
Product_price

Sales
Product_quantity
Product_ID

```
SELECT SUM(PRODUCT_PRICE * PRODUCT_QUANTITY)
/ (SELECT COUNT(*) FROM TICKET) AS AVERAGE FROM
SALES S, PRODUCT P WHERE S.PRODUCT_ID =
P.PRODUCT_ID
```

S2A


DEMO

```
AVERAGE
-----------------------------------
                             17.47

  1 record(s) selected.
```

Question 4

WHICH BRAND EARNS US THE MOST PROFIT?

WHICH BRAND EARNS US THE MOST PROFIT?

Product
Product_ID
Price
Cost
Brand

Sales
Product quantity
Product_ID

S2A

WHICH BRAND EARNS US THE MOST PROFIT?

Product
Product_ID
Price
Cost
Brand

Sales
Product quantity
Product_ID

```
SELECT PRODUCT_BRAND, SUM((PRODUCT_PRICE -
PRODUCT_COST)*PRODUCT_QUANTITY) AS PROFIT
```

S2A

WHICH BRAND EARNS US THE MOST PROFIT?

Product
Product_ID
Price
Cost
Brand

Sales
Product quantity
Product_ID

```
SELECT PRODUCT_BRAND, SUM((PRODUCT_PRICE –
PRODUCT_COST)*PRODUCT_QUANTITY) AS PROFIT
FROM PRODUCT P, SALES S
```

WHICH BRAND EARNS US THE MOST PROFIT?


```
SELECT PRODUCT_BRAND, SUM((PRODUCT_PRICE –
PRODUCT_COST)*PRODUCT_QUANTITY) AS PROFIT
FROM PRODUCT P, SALES S WHERE P.PRODUCT_ID =
S.PRODUCT_ID
```

S2A

WHICH BRAND EARNS US THE MOST PROFIT?


```
SELECT PRODUCT_BRAND, SUM((PRODUCT_PRICE –
PRODUCT_COST)*PRODUCT_QUANTITY) AS PROFIT
FROM PRODUCT P, SALES S WHERE P.PRODUCT_ID =
S.PRODUCT_ID GROUP BY PRODUCT_BRAND
```

S2A

WHICH BRAND EARNS US THE MOST PROFIT?

Product
Product_ID
Price
Cost
Brand

Sales
Product quantity
Product_ID

```
SELECT PRODUCT_BRAND, SUM((PRODUCT_PRICE –
PRODUCT_COST)*PRODUCT_QUANTITY) AS PROFIT
FROM PRODUCT P, SALES S WHERE P.PRODUCT_ID =
S.PRODUCT_ID GROUP BY PRODUCT_BRAND ORDER BY
PROFIT DESC
```

S2A

WHICH BRAND EARNS US THE MOST PROFIT?

Product
Product_ID
Price
Cost
Brand

Sales
Product quantity
Product_ID

```
SELECT PRODUCT_BRAND, SUM((PRODUCT_PRICE –
PRODUCT_COST)*PRODUCT_QUANTITY) AS PROFIT
FROM PRODUCT P, SALES S WHERE P.PRODUCT_ID =
S.PRODUCT_ID GROUP BY PRODUCT_BRAND ORDER BY
PROFIT DESC LIMIT 1
```

S2A

S2A

```
PRODUCT_BRAND              PROFIT
-------------------------- ------------------------------------
ALASKA                                                    15.75

  1 record(s) selected.
```

Bonus Query

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICKET_
DATE) AS MONTH, SUM(PRODUCT_PRICE * PRODUCT_
QUANTITY) AS SALES, SUM((PRODUCT_PRICE -
PRODUCT_COST) * PRODUCT_QUANTITY) AS PROFIT
```

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICKET_DATE) AS MONTH, SUM(PRODUCT_PRICE * PRODUCT_QUANTITY) AS SALES, SUM((PRODUCT_PRICE - PRODUCT_COST) * PRODUCT_QUANTITY) AS PROFIT
```

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICKET_DATE) AS MONTH, SUM(PRODUCT_PRICE * PRODUCT_QUANTITY) AS SALES, SUM((PRODUCT_PRICE - PRODUCT_COST) * PRODUCT_QUANTITY) AS PROFIT
```

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICKET_DATE) AS MONTH, SUM(PRODUCT_PRICE * PRODUCT_QUANTITY) AS SALES, SUM((PRODUCT_PRICE - PRODUCT_COST) * PRODUCT_QUANTITY) AS PROFIT
```

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICKET_DATE) AS MONTH, SUM(PRODUCT_PRICE * PRODUCT_QUANTITY) AS SALES, SUM((PRODUCT_PRICE - PRODUCT_COST) * PRODUCT_QUANTITY) AS PROFIT
```

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID
Ticket_date

Product
Product_ID
Product_price
Product_cost

Sales
Product_quantity
Product_ID
Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICKET_
DATE) AS MONTH, SUM(PRODUCT_PRICE * PRODUCT_
QUANTITY) AS SALES, SUM((PRODUCT_PRICE - PROD-
UCT_COST) * PRODUCT_QUANTITY) AS PROFIT FROM
SM_SALES S, SM_TICKET T, SM_PRODUCT P
```

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID Ticket_date

Product
Product_ID Product_price Product_cost

Sales
Product_quantity Product_ID Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICK-
ET_DATE) AS MONTH, SUM(PRODUCT_PRICE * PROD-
UCT_QUANTITY) AS SALES, SUM((PRODUCT_PRICE
- PRODUCT_COST) * PRODUCT_QUANTITY) AS PROF-
IT FROM SM_SALES S, SM_TICKET T, SM_PRODUCT P
WHERE S.TICKET_ID = T.TICKET_ID AND P.PRODUCT_ID
= S.PRODUCT_ID
```

S2A

WHAT ARE THE SALES AND PROFIT PER MONTH FOR 2019?

Ticket
Ticket_ID Ticket_date

Product
Product_ID Product_price Product_cost

Sales
Product_quantity Product_ID Ticket_ID

```
SELECT YEAR(TICKET_DATE) AS YEAR, MONTH(TICK-
ET_DATE) AS MONTH, SUM(PRODUCT_PRICE * PROD-
UCT_QUANTITY) AS SALES, SUM((PRODUCT_PRICE
- PRODUCT_COST) * PRODUCT_QUANTITY) AS PROF-
IT FROM SM_SALES S, SM_TICKET T, SM_PRODUCT P
WHERE S.TICKET_ID = T.TICKET_ID AND P.PRODUCT_ID
= S.PRODUCT_ID GROUP BY MONTH(TICKET_DATE),
YEAR(TICKET_DATE)
```

S2A


THANK YOU