

נדב פיירמן שטרן
207018250
תרגול שעה 14

Suppliers

create table Suppliers
(supp_code int PRIMARY KEY,
supp_name text,
country text,
full_address text,
supp_rank int,
Email text,
number_of_items int);

INSERT INTO Suppliers
VALUES

(1, "Max pipes", "Israel", "6 herzel st. , hadera", 5, "m@p.com", 140),
(2, "Chimo stuff", "France", "645 5th st. , paris", 3, "c@s.com", 180),
(3, "Ellen woods", "Canada", "89 9th st. , Toronto, ON", 5, "e@w.com", 1200),
(4, "North plastic", "UK", "333 hall st. , wales", 4, "n@p.com", 700),
(5, "China metal", "China", "78 chau st. , hong kong", 5, "c@m.com", 600),
(6, "Kick plastic", "China", "1 ming st. , hong;kong", 5, "k@p.com", 190),
(7, "Trend plastic", "Germany", "449 4th st. , berlin", 5, "t@p.com", 101),
(8, "Office depot", "Israel", "43 ben zvi st. , netanya", 4, "o@d.com", 200),
(9, "Chemicals inc.", "China", "123 ming st., hong kong", 4, "c@i.com", 170),
(10, "Nitro systems", "USA", "13 1st st. , phoenix, AZ", 5, "n@s.com", 70),
(11, "Rock machinery", "Germany", "68 finch rd. , munich", 5, "r@m.com", 250);

SELECT *
FROM Suppliers

```
1 create table Suppliers
2 (supp_code int PRIMARY KEY,
3 supp_name text,
4 country text,
5 full_address text,
6 supp_rank int,
7 Email text,
8 number_of_items int);
9
10 INSERT INTO Suppliers
11 VALUES
12 (1, "Max pipes", "Israel", "6 herzel st. , hadera", 5, "m@p.com", 140),
13 (2, "Chimo stuff", "France", "645 5th st. , paris", 3, "c@s.com", 180),
14 (3, "Ellen woods", "Canada", "89 9th st. , Toronto, ON", 5, "e@w.com", 1200),
15 (4, "North plastic", "UK", "333 hall st. , wales", 4, "n@p.com", 700),
16 (5, "China metal", "China", "78 chau st. , hong kong", 5, "c@m.com", 600),
17 (6, "Kick plastic", "China", "1 ming st. , hong;kong", 5, "k@p.com", 190),
18 (7, "Trend plastic", "Germany", "449 4th st. , berlin", 5, "t@p.com", 101),
19 (8, "Office depot", "Israel", "43 ben zvi st. , netanya", 4, "o@d.com", 200),
20 (9, "Chemicals inc.", "China", "123 ming st., hong kong", 4, "c@i.com", 170),
21 (10, "Nitro systems", "USA", "13 1st st. , phoenix, AZ", 5, "n@s.com", 70),
22 (11, "Rock machinery", "Germany", "68 finch rd. , munich", 5, "r@m.com", 250);
23
24 SELECT *
25 FROM Suppliers
```

supp_code	supp_name	country	full_address	supp_rank	Email	number_of_items
1	Max pipes	Israel	6 herzel st. , hadera	5	m@p.com	140
2	Chimo stuff	France	645 5th st. , paris	3	c@s.com	180
3	Ellen woods	Canada	89 9th st. , Toronto, ON	5	e@w.com	1200
4	North plastic	UK	333 hall st. , wales	4	n@p.com	700
5	China metal	China	78 chau st. , hong kong	5	c@m.com	600
6	Kick plastic	China	1 ming st. , hong;kong	5	k@p.com	190
7	Trend plastic	Germany	449 4th st. , berlin	5	t@p.com	101
8	Office depot	Israel	43 ben zvi st. , netanya	4	o@d.com	200
9	Chemicals inc.	China	123 ming st. , hong kong	4	c@i.com	170
10	Nitro systems	USA	13 1st st. , phoenix, AZ	5	n@s.com	70
11	Rock machinery	Germany	68 finch rd. , munich	5	r@m.com	250

Items

create table Items

(supp_code int,

item_code int,

type text,

item_name text,

units_in_package int,

price int,

PRIMARY KEY(supp_code,item_code));

INSERT INTO Items

VALUES (1,1,"Pipes","30" pipe",1,100),

(1,2,"Pipes","40" pipe",1,120),

(2,1,"Chemicals","Nitric acid – 1 liter",3,160),

(2,2,"Chemicals","Potassium – 500 gram",5,120),

(3,1,"Wood","Plank – 40 cm",8,60),

(3,2,"Misc.", "Wood screws – short",1000,10),

(5,1,"Metal","Iron flakes – 1kg bag",4,200),

(7,1,"Plastic","Polyepoxide – 5kg",3,140),

(8,1,"Office supply","Printer paper A4 – 500 pgs",6,50),

(9,1,"Chemicals","Liquid Hydrogen – 2 liter",4,100),

(10,1,"PC peripherals","PC monitor – 21" ",1,150),

(10,2,"Networking","LAN cable – 5 meters",5,30),

(10,3,"PC peripherals","Optic mouse – Logitech",1,70),

(11,1,"Industrial","Blowtorch – 500A",1,600);

SELECT *

FROM items

```
1 create table Items
2 (supp_code int,
3 item_code int,
4 type text,
5 item_name text,
6 units_in_package int,
7 price int,
8 PRIMARY KEY(supp_code,item_code));
9
10 INSERT INTO Items
11 VALUES(1,1,"Pipes","30" pipe",1,100),
12 (1,2,"Pipes","40" pipe",1,120),
13 (2,1,"Chemicals","Nitric acid – 1 liter",3,160),
14 (2,2,"Chemicals","Potassium – 500 gram",5,120),
15 (3,1,"Wood","Plank – 40 cm",8,60),
16 (3,2,"Misc.", "Wood screws – short",1000,10),
17 (5,1,"Metal","Iron flakes – 1kg bag",4,200),
18 (7,1,"Plastic","Polyepoxide – 5kg",3,140),
19 (8,1,"Office supply","Printer paper A4 – 500 pgs",6,50),
20 (9,1,"Chemicals","Liquid Hydrogen – 2 liter",4,100),
21 (10,1,"PC peripherals","PC monitor – 21" ",1,150),
22 (10,2,"Networking","LAN cable – 5 meters",5,30),
23 (10,3,"PC peripherals","Optic mouse – Logitech",1,70),
24 (11,1,"Industrial","Blowtorch – 500A",1,600);
25
26 SELECT *
27 FROM items
```

supp_code	item_code	type	item_name	units_in_package	price
1	1	Pipes	30" pipe	1	100
1	2	Pipes	40" pipe	1	120
2	1	Chemicals	Nitric acid – 1 liter	3	160
2	2	Chemicals	Potassium – 500 gram	5	120
3	1	Wood	Plank – 40 cm	8	60
3	2	Misc.	Wood screws – short	1000	10
5	1	Metal	Iron flakes – 1kg bag	4	200
7	1	Plastic	Polyepoxide – 5kg	3	140
8	1	Office supply	Printer paper A4 – 500 pgs	6	50
9	1	Chemicals	Liquid Hydrogen – 2 liter	4	100
10	1	PC peripherals	PC monitor – 21"	1	150
10	2	Networking	LAN cable – 5 meters	5	30
10	3	PC peripherals	Optic mouse – Logitech	1	70
11	1	Industrial	Blowtorch – 500A	1	600

Plants

create table Plants
(Plant_id int PRIMARY KEY,
manager text,
country text,
city text,
Street text);

INSERT INTO Plants
VALUES
(1018,"Elsa Elke","Germany","Frankfurt","45 halla rd."),
(2207,"Rick Welsh","USA","Chicago","45 second st."),
(3333,"Fritz Lentz","Germany","Munich","57 valkron st."),
(5250,"Angela Chan","China","Beijing","180 yao chan st."),
(8888,"Ajeet Abha","India","Kolkata","7 kali st.");

SELECT *
FROM Plants

```
1 create table Plants
2 (Plant_id int PRIMARY KEY,
3 manager text,
4 country text,
5 city text,
6 Street text);
7
8 INSERT INTO Plants
9 VALUES
10 (1018,"Elsa Elke","Germany","Frankfurt","45 halla rd."),
11 (2207,"Rick Welsh","USA","Chicago","45 second st."),
12 (3333,"Fritz Lentz","Germany","Munich","57 valkron st."),
13 (5250,"Angela Chan","China","Beijing","180 yao chan st."),
14 (8888,"Ajeet Abha","India","Kolkata","7 kali st.");
15
16 SELECT *
17 FROM Plants
```

Plant_id	manager	country	city	Street
1018	Elsa Elke	Germany	Frankfurt	45 halla rd.
2207	Rick Welsh	USA	Chicago	45 second st.
3333	Fritz Lentz	Germany	Munich	57 valkron st.
5250	Angela Chan	China	Beijing	180 yao chan st.
8888	Ajeet Abha	India	Kolkata	7 kali st.

Orders

create table Orders
(order_code int,
supp_code int,
item_code int,
order_date date,
expected_due_date date,
plant_id int,
qty int,
payment_method text,
PRIMARY KEY(order_code, supp_code, item_code));

INSERT INTO Orders
VALUES
(111,1,1,'1999-07-07','1999-07-17',2207,1,'Bank transfer'),
(222,1,1,'2002-05-07','2002-06-01',1018,6,'Check'),
(333,1,2,'2002-05-11','2002-06-11',1018,2,'Check'),
(444,2,2,'2002-08-03','2002-08-16',3333,1,'Check'),
(555,9,1,'2009-05-31','2009-06-20',1018,3,'Check'),
(555,5,1,'2009-05-31','2009-06-20',5250,5,'Check'),
(777,8,1,'2009-06-01','2009-06-15',6666,4,'Bank transfer'),
(888,9,1,'2009-06-02','2009-09-01',7777,2,'Bank transfer'),
(999,11,1,'2009-06-02','2009-08-25',8888,2,'Bank transfer');

SELECT *
FROM Orders

```
1 create table Orders
2 (order_code int,
3 supp_code int,
4 item_code int,
5 order_date date,
6 expected_due_date date,
7 plant_id int,
8 qty int,
9 payment_method text,
10 PRIMARY KEY(order_code, supp_code, item_code));
11
12 INSERT INTO Orders
13 VALUES
14 (111,1,1,'1999-07-07','1999-07-17',2207,1,'Bank transfer'),
15 (222,1,1,'2002-05-07','2002-06-01',1018,6,'Check'),
16 (333,1,2,'2002-05-11','2002-06-11',1018,2,'Check'),
17 (444,2,2,'2002-08-03','2002-08-16',3333,1,'Check'),
18 (555,9,1,'2009-05-31','2009-06-20',1018,3,'Check'),
19 (555,5,1,'2009-05-31','2009-06-20',5250,5,'Check'),
20 (777,8,1,'2009-06-01','2009-06-15',6666,4,'Bank transfer'),
21 (888,9,1,'2009-06-02','2009-09-01',7777,2,'Bank transfer'),
22 (999,11,1,'2009-06-02','2009-08-25',8888,2,'Bank transfer');
23
24 SELECT *
25 FROM Orders
```

order_code	supp_code	item_code	order_date	expected_due_...	plant_id	qty	payment_method	
111	1	1	1999-07-07	1999-07-17	2207	1	Bank transfer	🔍
222	1	1	2002-05-07	2002-06-01	1018	6	Check	🔍
333	1	2	2002-05-11	2002-06-11	1018	2	Check	🔍
444	2	2	2002-08-03	2002-08-16	3333	1	Check	🔍
555	5	1	2009-05-31	2009-06-20	5250	5	Check	🔍
555	9	1	2009-05-31	2009-06-20	1018	3	Check	🔍
777	8	1	2009-06-01	2009-06-15	6666	4	Bank transfer	🔍
888	9	1	2009-06-02	2009-09-01	7777	2	Bank transfer	🔍
999	11	1	2009-06-02	2009-08-25	8888	2	Bank transfer	🔍

1. Select country
From Suppliers
Join Items
USING (supp_code)
where price = (select max(price) from items)

```
1 Select country
2 From Suppliers
3 Join Items
4 USING (supp_code)
5 where price = (select max(price) from items)
```

country

Germany

2. Select I.item_name , S.country , I.item_code , S.supp_code , I.price
From (select item_name , item_code , price , supp_code
from Items
Where (units_in_package>1) and
(price between 115 and 235)) as I
Join (select country , supp_code from Suppliers) as S
USING (supp_code)

```
1 Select I.item_name , S.country , I.item_code , S.supp_code , I.price
2 From (select item_name , item_code , price , supp_code
3 from Items
4 Where (units_in_package>1) and
5 (price between 115 and 235) ) as I
6 Join (select country , supp_code from Suppliers) as S
7 USING (supp_code)
```

item_name	country	item_code	supp_code	price
Nitric acid – 1 liter	France	1	2	160
Potassium – 500 gram	France	2	2	120
Iron flakes – 1kg bag	China	1	5	200
Polyepoxide – 5kg	Germany	1	7	140

3. INSERT INTO Orders
VALUES
(1111,11,1,'2022-12-02','2022-12-31',8888,2,'Bank transfer');

SELECT *
FROM Orders

```

1 INSERT INTO Orders
2 VALUES
3 (1111,11,1,'2022-12-02','2022-12-31',8888,2,'Bank transfer');
4
5 SELECT *
6 FROM Orders

```

order_code	supp_code	item_code	order_date	expected_due...	plant_id	qty	payment_method
111	1	1	1999-07-07	1999-07-17	2207	1	Bank transfer
222	1	1	2002-05-07	2002-06-01	1018	6	Check
333	1	2	2002-05-11	2002-06-11	1018	2	Check
444	2	2	2002-08-03	2002-08-16	3333	1	Check
555	5	1	2009-05-31	2009-06-20	5250	5	Check
555	9	1	2009-05-31	2009-06-20	1018	3	Check
777	8	1	2009-06-01	2009-06-15	6666	4	Bank transfer
888	9	1	2009-06-02	2009-09-01	7777	2	Bank transfer
999	11	1	2009-06-02	2009-08-25	8888	2	Bank transfer
1111	11	1	2022-12-02	2022-12-31	8888	2	Bank transfer

Select O.order_code , S.supp_name , O.item_code , O.order_date
From (select supp_code, order_code , item_code , order_date
from Orders
where (order_date between "2022-11-03" and "2023-01-03") and
(payment_method = "Bank transfer")) as O
Join (select supp_name , supp_code from Suppliers) as S
USING (supp_code)
Join (select item_code , supp_code from Items where units_in_package=1) as I
USING (item_code , supp_code)

```

1 Select O.order_code , S.supp_name , O.item_code , O.order_date
2 From (select supp_code, order_code , item_code , order_date
3 from Orders
4 where (order_date between "2022-11-03" and "2023-01-03") and
5 (payment_method = "Bank transfer")) as O
6 Join (select supp_name , supp_code from Suppliers) as S
7 USING (supp_code)
8 Join (select item_code , supp_code from Items where units_in_package=1) as I
9 USING (item_code , supp_code)

```

order_code	supp_name	item_code	order_date
1111	Rock machinery	1	2022-12-02

4. Select S.supp_name , I.item_code , I.units_in_package
 From (Select supp_name , supp_code
 From Suppliers
 Where number_of_items>9) as S
 Join (select supp_code , item_code , units_in_package
 From Items
 Where units_in_package>=3) as I
 USING (supp_code)
 ORDER BY S.supp_name , I.item_code

```

1 Select S.supp_name , I.item_code , I.units_in_package
2 From (Select supp_name , supp_code
3 From Suppliers
4 Where number_of_items>9) as S
5 Join (select supp_code , item_code , units_in_package
6 From Items
7 Where units_in_package>=3) as I
8 USING (supp_code)
9 ORDER BY S.supp_name , I.item_code

```

supp_name	item_code	units_in_package
Chemicals inc.	1	4
Chimo stuff	1	3
Chimo stuff	2	5
China metal	1	4
Ellen woods	1	8
Ellen woods	2	1000
Nitro systems	2	5
Office depot	1	6
Trend plastic	1	3

5. Select country , count(*)
 From Suppliers
 Where supp_rank=5
 GROUP BY country

```

1 Select country , count(*)
2 From Suppliers
3 Where supp_rank=5
4 GROUP BY country

```

country	count(*)
Canada	1
China	2
Germany	2
Israel	1
USA	1

6. Select avg(DATEDIFF(O.expected_due_date , O.order_date))
 From (Select supp_code
 From Suppliers
 Where (supp_rank=4) and (country = "China")) as S
 Join (Select supp_code , expected_due_date , order_date From Orders) as O
 USING (supp_code)

```

1 Select avg(DATEDIFF(O.expected_due_date , O.order_date))
2 From (Select supp_code
3 From Suppliers
4 Where (supp_rank=4) and (country = "China")) as S
5 Join (Select supp_code , expected_due_date , order_date From Orders) as O
6 USING (supp_code)

```

avg(DATEDIFF(O.expected_due_date , O.order_date))
55.5000

7. Select StrCmp((Select country From Plants Where manager = "Elsa Elke"),
(Select country From Suppliers Where supp_name = "Trend plastic"))

```
1 Select StrCmp((Select country From Plants Where manager = "Elsa Elke"),
2 (Select country From Suppliers Where supp_name = "Trend plastic"))
```

StrCmp((Select ...

0

8. Select O.Plant_id , I.price
From (Select supp_code , plant_id , item_code
From Orders) as O
Join (Select plant_id
From Plants
Where country = "India") as P
USING (plant_id)
Join (Select supp_code
From Suppliers
Where (supp_name = "Rock machinery") and
(country = "Germany")) as S
USING (supp_code)
Join (Select supp_code , price, item_code
From Items
Where price>312) as I
USING (supp_code , item_code)
ORDER BY I.price , O.Plant_id

```
1 Select O.Plant_id , I.price
2 From (Select supp_code , plant_id , item_code
3 From Orders) as O
4 Join (Select plant_id
5 From Plants
6 Where country = "India") as P
7 USING (plant_id)
8 Join (Select supp_code
9 From Suppliers
10 Where (supp_name = "Rock machinery") and
11 (country = "Germany")) as S
12 USING (supp_code)
13 Join (Select supp_code , price, item_code
14 From Items
15 Where price>312) as I
16 USING (supp_code , item_code )
17 ORDER BY I.price , O.Plant_id
```

Plant_id	price
8888	600
8888	600

9. Select S.supp_name , P.manager
 From (Select supp_name , supp_code
 From Suppliers) as S
 Left outer Join (Select Plant_id , supp_code
 From Orders) AS O
 Using (supp_code)
 Left outer Join (Select Plant_id , manager
 From Plants) as P
 Using (Plant_id)

```

1 Select S.supp_name , P.manager
2 From (Select supp_name , supp_code
3 From Suppliers) as S
4 Left outer Join (Select Plant_id , supp_code
5 From Orders) AS O
6 Using (supp_code)
7 Left outer Join (Select Plant_id , manager
8 From Plants) as P
9 Using (Plant_id)

```

supp_name	manager
Max pipes	Rick Welsh
Max pipes	Elsa Elke
Max pipes	Elsa Elke
Chimo stuff	Fritz Lentz
Ellen woods	NULL
North plastic	NULL
China metal	Angela Chan
Kick plastic	NULL
Trend plastic	NULL
Office depot	NULL
Chemicals inc.	Elsa Elke
Chemicals inc.	NULL
Nitro systems	NULL
Rock machinery	Ajeet Abha
Rock machinery	Ajeet Abha

10. Select supp_name
 From Suppliers
 Where country=all(Select country
 From Suppliers
 Where supp_name = "China metal")

```

1 Select supp_name
2 From Suppliers
3 Where country=all(Select country
4 From Suppliers
5 Where supp_name = "China metal")

```

supp_name
China metal
Kick plastic
Chemicals inc.