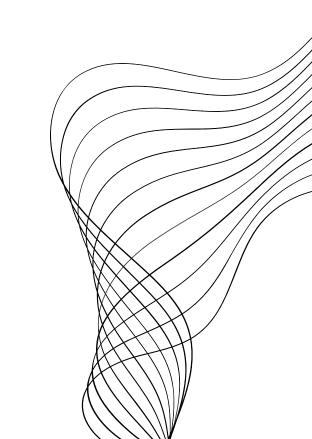


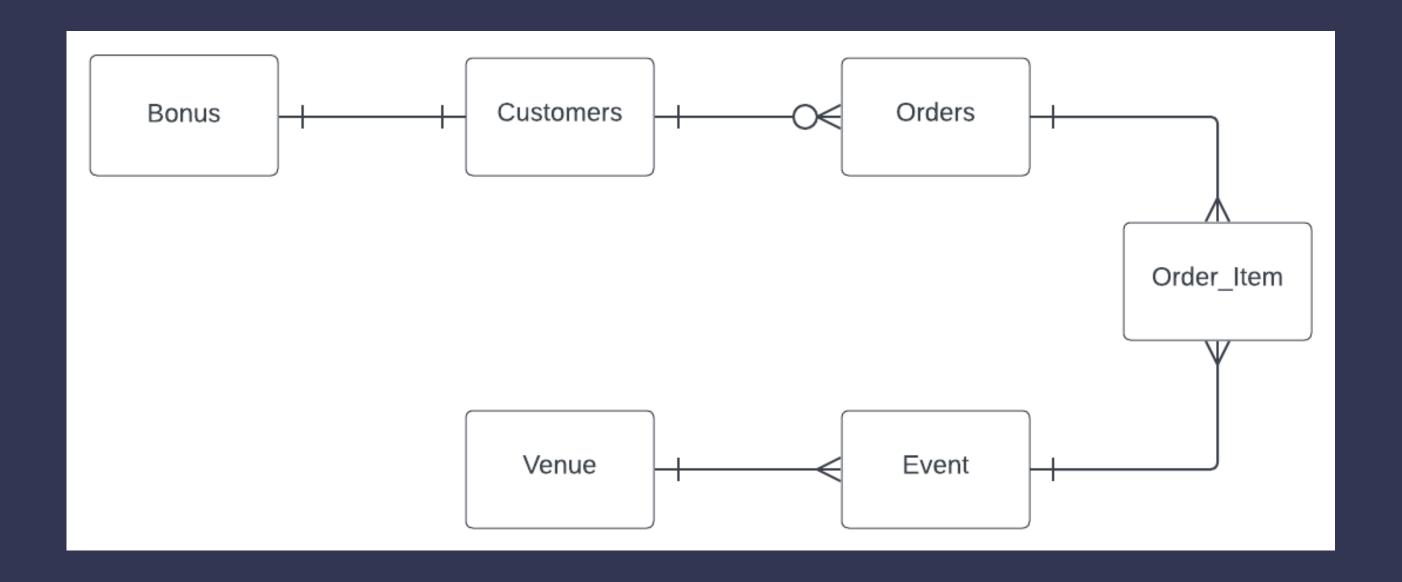


**TOPIC - TICKETON.KZ** 

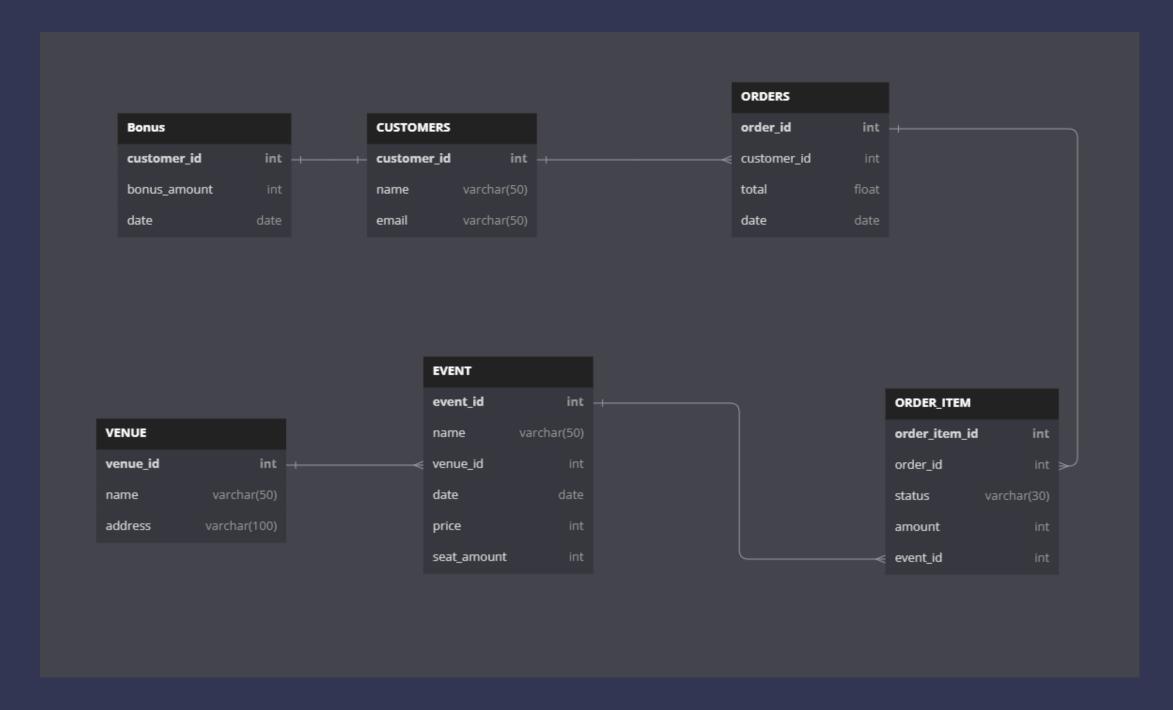
ALIMGOZHA ADIL IBRAGIM ALDIAR SALYKBAYEV BEKZHAN ORYNGALIEV BAUYRZHAN



# ERD



# Conceptual Design



## TABLES

```
EXECUTE EXECUTE: EX
                           customer_id int identity(1,1) primary key,
                          name varchar(50) not null,
                           email varchar(50) not null,
                          wallet float not null
120 % ▼ ◀
Ш Результаты 🗐 Сообщения
                                                                                                                                                                                                                                wallet
                                                                                                                            email
                     customer_id
                                                                    name
                                                                                                                                                                                                                                 1000
                                                                     John Smith
                                                                                                                            john.smith@example.com
                      2
                                                                                                                            jane.doe@example.com
                                                                                                                                                                                                                                 1000
                                                                      Jane Doe
                                                                                                                                                                                                                                 1000
                       3
                                                                      Michael Lee
                                                                                                                            michael.lee@example.com
                                                                      Sarah Johnson
                                                                                                                            sarah.johnson@example.com
                                                                                                                                                                                                                                 1000
                                                                                                                            david.kim@example.com
                                                                                                                                                                                                                                 1000
                       5
                                                                      David Kim
                                                                      Emily Wong
                                                                                                                            emily.wong@example.com
                                                                                                                                                                                                                                 1000
                      7
                                                                      Chris Brown
                                                                                                                            chris.brown@example.com
                                                                                                                                                                                                                                 1000
                                                                     Maggie Chen
                                                                                                                                                                                                                                1000
                                                                                                                            maggie.chen@example.com
                                                                                                                                                                                                                                 1000
                       9
                                                                      Scott Davis
                                                                                                                             scott.davis@example.com
                                                                     Julia Rodrigu...
                                                                                                                           julia.rodriguez@example.com
                      10
                                                                                                                                                                                                                               1000
   10
```

```
CREATE TABLE ORDERS(
     order_id int primary key,
     customer_id int not null,
     total float not null,
     date date not null,
      FOREIGN KEY (customer_id) REFERENCES CUSTOMERS(customer_id)
99 %
 Результаты
               В Сообщения
      order_id
                          total
                                 date
               customer id
                                 2023-05-01
                           120,5
                                 2023-05-02
                                 2023-05-03
                          40.2
                                 2023-05-03
                                 2023-05-04
                           150
                                 2023-05-05
                                 2023-05-06
                           200
                                 2023-05-07
                                 2023-05-08
      10
               10
                                 2023-05-09
```

```
CREATE TABLE ORDER ITEM (
       order_item_id int identity(1,1),
       order id int,
       status varchar(30) not null,
       amount int.
       event_id int,
       PRIMARY KEY (order_item_id),
       FOREIGN KEY (order id) REFERENCES ORDERS(order id)
       FOREIGN KEY (event id) REFERENCES EVENT(event id)
99 %
Презультаты Презультаты
                 order id status
                                         event id
     order_item_id
                                 amount
                          adult
                                  2
     2
                          kid
                                         3
                          student
                                 3
                          adult
                                         2
                          kid
                          student
                          adult
                                 5
                                         4
                                 2
      9
                          adult
 10
     10
                  10
                                         9
                          student 3
```

```
CREATE TABLE VENUE(
      venue_id int identity(1,1) primary key,
      name varchar(50) not null,
      address varchar(100) not null
99 %
                В Сообщения
 Результаты
       venue id
                                        address
                name
                                         Nur-Sultan
                 Astana Arena
       2
                 Almaty Arena
                                         Almaty
       3
                 Barys Arena
                                         Nur-Sultan
                 Central Stadium
                                         Almaty
                 Saryarka Velodrome
                                         Nur-Sultan
                 Medeo Skating Rink
       6
                                         Almaty
                 National Tennis Center
                                         Nur-Sultan
                 Snow Leopard Ski Resort
                                         Almaty
       9
                 Zhastar Palace
                                         Shymkent
       10
                 Kok-Tobe Hill Park
 10
                                         Almaty
       11
                 Drama Theater
                                         Almaty
                 Cinemax
                                         Almaty
                 Chaplin
 13
       13
                                         Almaty
       14
                 Chaplin
  14
                                         Nur-Sultan
```

```
CREATE TABLE EVENT(
     event id int identity(1,1) primary key,
     name varchar(50) not null,
     venue id int not null,
     date date not null.
     price int,
     seat amount int
     FOREIGN KEY (venue_id) REFERENCES VENUE(venue_id)
99 %
      - + 4
Результаты
               В Сообщения
                                              venue_id
                                                        date
      event_id
                                                                   price
                                                                           seat_amount
                Astana FC vs Kairat
                                                         2023-05-15
                                                                    15000
                Almaty Marathon
                                                         2023-05-21
      2
                                                                    7000
                                                                           51
               Barys Hockey Game
      3
                                                                    9500
                                                         2023-05-25
                                                                           33
      4
                National Football Match
                                                                    12000
                                                                           25
                                                         2023-06-01
                                                         2023-06-10 6000
                Saryarka Cycling Race
                                                                           12
               Medeo Figure Skating Championship
                                                                           43
                                                         2023-06-15 9000
               National Tennis Championship
                                                         2023-06-20
                                                                    4000
                                                                           57
               Snow Leopard Ski Race
                                                                    18000
                                                                           34
                                                         2023-06-25
      9
                                                                    2500
                Shymkent Music Festival
                                                         2023-07-01
                                                                           42
      10
 10
                Kok-Tobe Jazz Night
                                               10
                                                         2023-07-10 4000
                                                                           11
               Demon Slayer Movie Premier
 11
     11
                                               12
                                                         2023-06-01 2000
                                                                           23
 12 12
                Swan Lake Ballet
                                                         2023-05-29 6500
                                                                           82
```

```
CREATE OR ALTER PROCEDURE ORDERING @CUSTOMER ID INT, @ADULT INT, @STUDENT INT, @KID INT, @EVENT ID INT
AS BEGIN
DECLARE @NEW_ROW INT
IF (SELECT MAX(ORDER ID) FROM ORDER ITEM) IS NULL BEGIN
SET @NEW_ROW = 1 END
ELSE BEGIN
SET @NEW_ROW = (SELECT MAX(ORDER_ID) FROM ORDER_ITEM)+1 END
IF (SELECT SEAT_AMOUNT FROM EVENTS WHERE EVENT_ID = @EVENT_ID) < (@ADULT+@STUDENT+@KID) BEGIN
PRINT('THERE IS NOT ENOUGH SEATS FROM THIS EVENT! PLEASE TRY OTHER ONES.') END
ELSE BEGIN
IF @ADULT > 0 BEGIN
INSERT INTO ORDER_ITEM VALUES(@NEW_ROW, 'adult', @ADULT, @EVENT_ID) END
IF @STUDENT >0 BEGIN
INSERT INTO ORDER ITEM VALUES(@NEW_ROW, 'student',@STUDENT,@EVENT_ID) END
IF @KID >0 BEGIN
INSERT INTO ORDER ITEM VALUES(@NEW_ROW, 'kid',@KID,@EVENT_ID) END
DECLARE @PRICE INT
SET @PRICE = (SELECT PRICE FROM EVENTS WHERE EVENT_ID = @EVENT_ID)
INSERT INTO ORDERS VALUES (@NEW_ROW,@CUSTOMER_ID,@PRICE*(@ADULT+@STUDENT*0.8+@KID*0.5),GETDATE())
UPDATE EVENTS SET SEAT_AMOUNT = SEAT_AMOUNT - (@ADULT+@STUDENT+@KID) WHERE EVENT_ID = @EVENT_ID
END END
EXEC ORDERING @CUSTOMER_ID =2, @ADULT = 2, @STUDENT =1, @KID =3, @EVENT_ID = 3
```

	SELECT *	FROM C	RDER_	ITEM	
	SELECT *	FROM C	ORDERS		
0 %	CELECT *	EBOM E	ONLIGE!	_	
U %0					
₽e	езультаты 🔓	Сообще	ния		
	1 2- 2- 2-1				averat id
<u>.</u>	order_item_id	oraer_ia	status	amount	event_id
	order_item_id	oraer_la 1		2	4
	order_item_id 1 2	order_id 1			4 4
	1	order_id 1 1	adult	2	4 4 4

	SELEC	T * FROM	ORDER	S
	SELEC	T * FROM	BONUS	ES
0 %	▼ 4 🗉			
Pe	зультаты	ы В Сообщ	ения	
	order_id	customer_id	total	date
	1	2	51600	2023-05-12

```
drop table ORDER_ITEM
CREATE TABLE BONUSES(
customer_id int primary key,
bonus_amount float,
date date
)
```

```
CREATE OR ALTER TRIGGER BONUS ON ORDERS AFTER INSERT, UPDATE AS BEGIN

DECLARE @TOTAL INT, @CUSTOMER_ID INT

SET @TOTAL = (SELECT TOTAL FROM INSERTED)

SET @CUSTOMER_ID = (SELECT CUSTOMER_ID FROM INSERTED)

SIF DATEDIFF(DAY, GETDATE(), (SELECT DATE FROM BONUSES WHERE CUSTOMER_ID = @CUSTOMER_ID)) > 364 BEGIN

DELETE FROM BONUSES WHERE CUSTOMER_ID = @CUSTOMER_ID END

SELSE BEGIN

SIF @CUSTOMER_ID IN (SELECT CUSTOMER_ID FROM BONUSES) BEGIN

UPDATE BONUSES SET bonus_amount = bonus_amount + @TOTAL *0.05 WHERE CUSTOMER_ID = @CUSTOMER_ID

END END END
```

```
CREATE PROCEDURE BONUS_SPENDING @CUSTOMER_ID int, @ORDER_ID INT

AS BEGIN

IF (SELECT BONUS_AMOUNT FROM BONUSES WHERE CUSTOMER_ID = @CUSTOMER_ID) < 20000 BEGIN PRINT('NOT ENOUGH BONUSES!') END

ELSE BEGIN

IF (SELECT TOTAL FROM ORDERS WHERE ORDER_ID = @ORDER_ID) > (SELECT BONUS_AMOUNT FROM BONUSES WHERE CUSTOMER_ID = @CUSTOMER_ID)

BEGIN PRINT('NOT ENOUGH BONUSES FOR EXCHANGE!') END

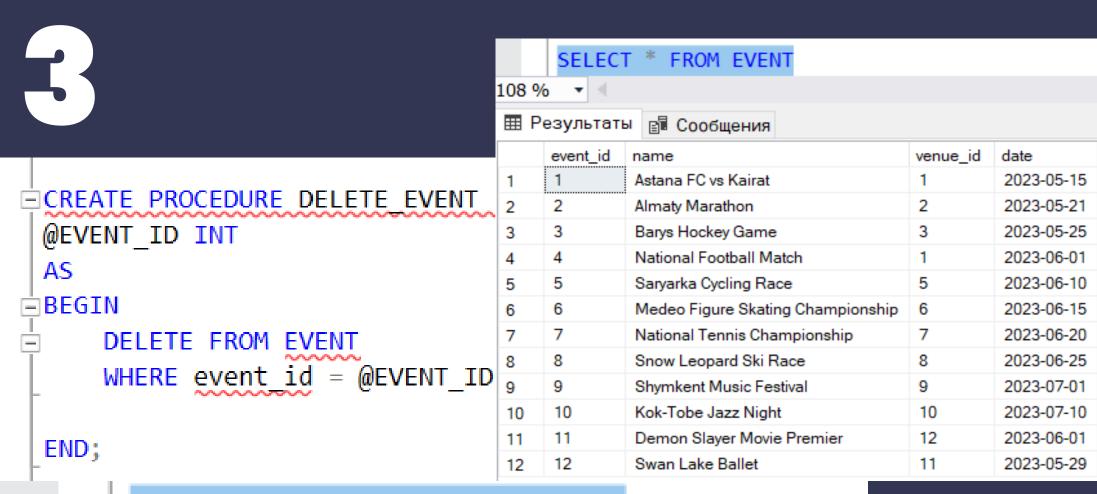
ELSE BEGIN

UPDATE BONUSES SET bonus_amount = bonus_amount - (SELECT TOTAL FROM ORDERS WHERE ORDER_ID = @ORDER_ID) WHERE customer_id = @CUSTOMER_ID

UPDATE ORDERS SET TOTAL = 0 WHERE ORDER_ID = @ORDER_ID

END END END

EXEC BONUS_SPENDING @CUSTOMER_ID = 2, @ORDER_ID = 1
```



108 % 🔻 🖪 order\_item\_id order\_id status event\_id amount seat\_amount Adult Student Adult Adult Adult Child Student Child Child Student Adult 

SELECT \* FROM ORDER ITEM

#### SELECT FROM ORDERS

108 %



	order_id	customer_id	total	date
1	1	1	120,5	2023-05-01
2	2	2	65	2023-05-02
3	3	3	40,2	2023-05-03
4	4	4	90,9	2023-05-03
5	5	5	150	2023-05-04
6	6	6	80	2023-05-05

#### SELECT \* FROM CUSTOMERS

108 % - ▼ | ∢

price

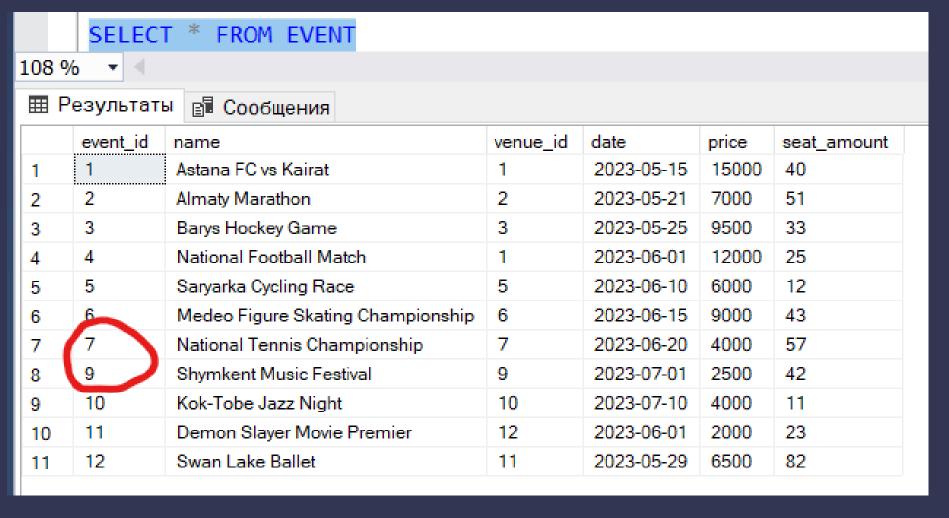
**Ш** Результаты 🗐 Сообщения

	customer_id	name	email	wallet
1	1	John Smith	john.smith@example.com	1000
2	2	Jane Doe	jane.doe@example.com	1000
3	3	Michael Lee	michael.lee@example.com	1000
4	4	Sarah Johnson	sarah.johnson@example.com	1000
5	5	David Kim	david.kim@example.com	1000
6	6	Emily Wong	emily.wong@example.com	1000
7	7	Chris Brown	chris.brown@example.com	1000
8	8	Maggie Chen	maggie.chen@example.com	1000

```
CREATE TRIGGER DELETE AFTER EVENT REFUND
ON EVENT
INSTEAD OF DELETE
BEGIN
    DECLARE @COUNTER INT
    SET @COUNTER = (SELECT COUNT(total) FROM ORDERS
                    WHERE customer id IN (SELECT distinct O.customer id
                         FROM ORDERS O
                        INNER JOIN ORDER ITEM OI
                        ON O order id = OI order id
                         WHERE OI.event id = (SELECT event id FROM DELETED)))
    WHILE (@COUNTER != 0)
     BEGIN
        DECLARE @CUST_TOP INT
        SET @CUST_TOP = (SELECT DISTINCT TOP 1 0.customer_id
                             FROM ORDERS O
                             LEFT JOIN ORDER ITEM OI
                             ON O.order_id = OI.order_id
                             WHERE OI.event id = (SELECT event id FROM DELETED))
                                                                                           END
        DECLARE @ORDER_TOP INT
         SET @ORDER_TOP = (SELECT DISTINCT TOP 1 0.order_id
                             FROM ORDERS O
                             LEFT JOIN ORDER ITEM OI
                             ON O.order id = OI.order id
                             WHERE OI.event id = (SELECT event id FROM DELETED))
                                                                                     END;
```

```
UPDATE CUSTOMERS
    SET wallet += (SELECT TOP 1 total FROM ORDERS
                    WHERE order id IN
                        (SELECT distinct O.customer id
                        FROM ORDERS O
                        INNER JOIN ORDER ITEM OI
                        ON O.order_id = OI.order id
                        WHERE OI.event id =
                            (SELECT event id FROM DELETED)))
    WHERE customer id = @CUST_TOP
    DELETE FROM ORDER ITEM
    WHERE order_id = @ORDER_TOP
    DELETE FROM ORDERS
    WHERE customer id = @CUST TOP
   SET @COUNTER = @COUNTER - 1
DELETE FROM EVENT
WHERE event id = (SELECT event id FROM DELETED)
```

### EXEC DELETE\_EVENT @EVENT\_ID = 8



#### SELECT \* FROM ORDERS

.08 %

#### **Ш Результаты** 🔁 Сообщения

	order_id	customer_id	total	date
1	2	2	65	2023-05-02
2	5	5	150	2023-05-04
3	6	6	80	2023-05-05

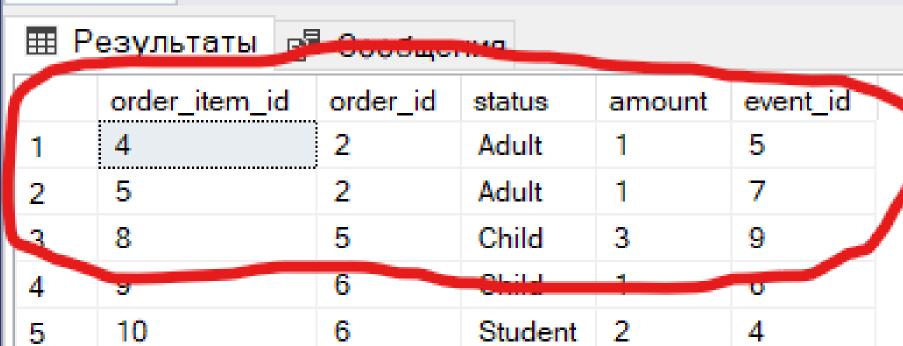
#### SELECT \* FROM ORDER ITEM

6

108 %

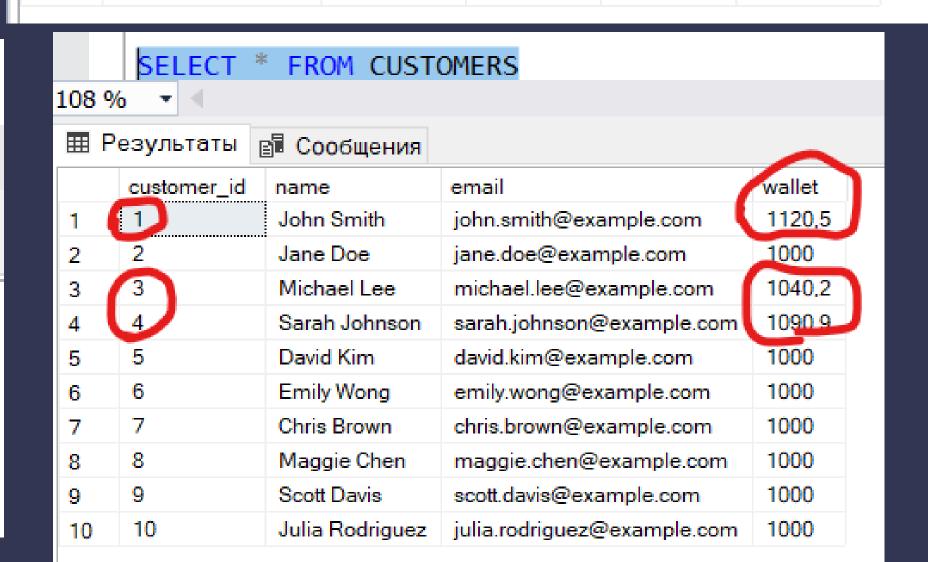
11

6



Adult

11



```
CREATE TRIGGER add event ON EVENT
 INSTEAD OF INSERT
 AS
ĖBEGIN
     IF EXISTS(SELECT 1 FROM EVENT WHERE venue_id = (SELECT venue_id FROM inserted) AND date = (SELECT date FROM inserted))
     BEGIN
         PRINT 'This venue is taken at this date'
     END
     ELSE
     BEGIN
         INSERT INTO EVENT(name, venue_id, date, price, seat_amount)
         SELECT name, venue_id, date, price, seat_amount
         FROM inserted
     END
 END
                                                                                  99 %
```

insert into EVENT(name, venue\_id, date, price, seat\_amount)

values('Swan Lake Ballet',1,'2023-07-1',30000,25)

<b>III</b>	Результаты	ьтаты 🖺 Сообщения						
	event_id	name	venue_id	date	price	seat_amount		
1	1	Astana FC vs Kairat	1	2023-05-15	15000	40		
2	2	Almaty Marathon	2	2023-05-21	7000	51		
3	3	Barys Hockey Game	3	2023-05-25	9500	33		
4	4	National Football Match	1	2023-06-01	12000	25		
5	5	Saryarka Cycling Race	5	2023-06-10	6000	12		
6	6	Medeo Figure Skating Championship	6	2023-06-15	9000	43		
7	7	National Tennis Championship	7	2023-06-20	4000	57		
8	8	Snow Leopard Ski Race	8	2023-06-25	18000	34		
9	9	Shymkent Music Festival	9	2023-07-01	2500	42		
10	10	Kok-Tobe Jazz Night	10	2023-07-10	4000	11		
11	11	Demon Slayer Movie Premier	12	2023-06-01	2000	23		
12	12	Swan Lake Ballet	11	2023-05-29	6500	82		
13	22	Swan Lake Ballet	1	2023-07-01	30000	25		

```
insert into EVENT(name, venue_id, date, price, seat_amount)
values('Swan Lake Ballet',1,'2023-06-1',30000,25)

99 %

Тhis venue is taken at this date

(затронута одна строка)

Время выполнения: 2023-05-11Т23:05:28.0310250+06:00

99 %

■ Pes
```

99 %	99 %     ▼							
⊞ F	В Результаты В Сообщения							
	event_id	name	venue_id	date	price	seat_amount		
1	1	Astana FC vs Kairat	1	2023-05-15	15000	40		
2	2	Almaty Marathon	2	2023-05-21	7000	51		
3	3	Barys Hockey Game	3	2023-05-25	9500	33		
4	4	National Football Match	1	2023-06-01	12000	25		
5	5	Saryarka Cycling Race	5	2023-06-10	6000	12		
6	6	Medeo Figure Skating Championship	6	2023-06-15	9000	43		
7	7	National Tennis Championship	7	2023-06-20	4000	57		
8	8	Snow Leopard Ski Race	8	2023-06-25	18000	34		
9	9	Shymkent Music Festival	9	2023-07-01	2500	42		
10	10	Kok-Tobe Jazz Night	10	2023-07-10	4000	11		
11	11	Demon Slayer Movie Premier	12	2023-06-01	2000	23		
12	12	Swan Lake Ballet	11	2023-05-29	6500	82		
13	22	Swan Lake Ballet	1	2023-07-01	30000	25		

```
CREATE TRIGGER add_venue ON VENUE
  INSTEAD OF INSERT
⊟BEGIN
     DECLARE @name VARCHAR(50), @address VARCHAR(100)
     SELECT @name = TRIM(name), @address = TRIM(address) FROM inserted
     IF EXISTS(SELECT 1 FROM VENUE WHERE name = @name AND address = @address)
     BEGIN
         PRINT 'Venue already inserted'
     END
     ELSE
     BEGIN
         INSERT INTO VENUE(name, address)
         SELECT @name, @address
     END
  END
    insert into VENUE(name,address)
     values('Chaplin','Nur-Sultan')
99 %
    Сообщения
   Venue already inserted
    (затронута одна строка)
   Время выполнения: 2023-05-11Т23:07:11.0680499+06:00
```

	venue_id	name	address
1	1	Astana Arena	Nur-Sultan
2	2	Almaty Arena	Almaty
3	3	Barys Arena	Nur-Sultan
4	4	Central Stadium	Almaty
5	5	Saryarka Velodrome	Nur-Sultan
6	6	Medeo Skating Rink	Almaty
7	7	National Tennis Center	Nur-Sultan
8	8	Snow Leopard Ski Resort	Almaty
9	9	Zhastar Palace	Shymkent
10	10	Kok-Tobe Hill Park	Almaty
11	11	Drama Theater	Almaty
12	12	Cinemax	Almaty
13	13	Chaplin	Almaty
14	14	Chaplin	Nur-Sultan

# insert into VENUE(name,address) values('Chaplin','Shymkent')

Ⅲ F	езультаты	В Сообщения	
	venue_id	name	address
1	1	Astana Arena	Nur-Sultan
2	2	Almaty Arena	Almaty
3	3	Barys Arena	Nur-Sultan
4	4	Central Stadium	Almaty
5	5	Saryarka Velodrome	Nur-Sultan
6	6	Medeo Skating Rink	Almaty
7	7	National Tennis Center	Nur-Sultan
8	8	Snow Leopard Ski Resort	Almaty
9	9	Zhastar Palace	Shymkent
10	10	Kok-Tobe Hill Park	Almaty
11	11	Drama Theater	Almaty
12	12	Cinemax	Almaty
13	13	Chaplin	Almaty
14	14	Chaplin	Nur-Sultan
15	15	Chaplin	Shymkent

```
create or alter procedure new customer(@customer name varchar(30), @email varchar(40), @wallet int = null) as
⊨begin
    insert into CUSTOMERS
                                                           В Сообщения
    values(@customer name, @email, @wallet)
end:
                                                              сообщение: 51000, уровень: 16, состояние: 1, процедура: user verification, строка: 8 [строка начала пакета: 122]
                                                              Отсутствует имя или фамилия
                                                              Время выполнения: 2023-05-12T02:40:34.2377263+06:00
\dot{\sqsubseteq} create or alter procedure update wallet(@cust id int, @plus int) as
⊟begin
      if (select wallet from CUSTOMERS where customer_id=@cust_id) is null
           update CUSTOMERS
           set wallet = 0
           WHERE customer id=@cust id
                                                                                               ві Сообщения
      update CUSTOMERS
                                                                                                  сообщение: 51000, уровень: 16, состояние: 1,
      set wallet = wallet + @plus
                                                                                                  Проверьте почту на корректность
      where customer id=@cust id
                                                                                                  Время выполнения: 2023-05-12T02:41:09.6752954
 end:
```

```
create or alter trigger user verification on customers
after insert
as
begin
declare @name varchar(30)=(select name from inserted);
declare @email varchar(40)=(select email from inserted);
if charindex(' ',@name) = 0
throw 51000, 'Отсутствует имя или фамилия',1;
if CHARINDEX('@', @email) = 0 or charindex('.',@email,charindex('@',@email)) = 0
throw 51000, 'Проверьте почту на корректность',1;
end;
```

```
□CREATE OR ALTER PROCEDURE new_event
  @event_type varchar(100), @name varchar(30), @venue_id int, @date date, @price float, @seat_amount int, @beginning time, @ends time)
 AS
∃BEGIN
  DECLARE @event_id int = CASE
    WHEN @event_type = 'Konqept' THEN 201
    WHEN @event_type = 'Kuno' THEN 301
    WHEN @event_type = 'Cnopt' THEN 101
    WHEN @event_type = 'Teamp' THEN 401
    WHEN @event_type = 'Pashoe' THEN 501
   END;
                                                                                        89 %
    while(select event id from EVENTS where event id = @event id) is not null
         begin
                                                                                         р Сообщения
             set @event_id = @event_id + 1
                                                                                            сообщение: 50000, уровень: 16, состояние: 1, процедура: new_event, строка: 32 [строка начала пак
         end;
                                                                                             Это время пересекается с другим событием
   IF EXISTS (
     SELECT 1 FROM EVENTS
                                                                                             Время выполнения: 2023-05-12T03:39:45.9339698+06:00
    WHERE venue_id = @venue_id
      AND date = @date
       AND ((@beginning BETWEEN beginning AND ends) OR (@ends BETWEEN beginning AND ends))
   BEGIN
     RAISERROR('Это время пересекается с другим событием', 16, 1);
    RETURN;
   END;
   INSERT INTO EVENTS (event_id, name, venue_id, date, price, seat_amount, beginning, ends)
  VALUES (@event_id, @name, @venue_id, @date, @price, @seat_amount, @beginning, @ends);
 END;
```

⊞ P								
	event_id	name	venue_id	date	price	seat_amount	beginning	ends
5	105	Saryarka Cycling Race	5	2023-06-10	6000	12	00:00:00.0000000	23:59:59.0000000
6	106	Medeo Figure Skating Championship	6	2023-06-15	9000	43	00:00:00.0000000	23:59:59.0000000
7	107	National Tennis Championship	7	2023-06-20	4000	57	00:00:00.0000000	23:59:59.0000000
8	108	Snow Leopard Ski Race	8	2023-06-25	18000	34	00:00:00.0000000	23:59:59.0000000
9	201	Shymkent Music Festival	9	2023-07-01	2500	42	09:20:00.0000000	15:00:00.0000000
10	202	Kok-Tobe Jazz Night	10	2023-07-10	4000	11	09:20:00.0000000	15:00:00.0000000
11	301	Demon Slayer Movie Premier	12	2023-06-01	2000	23	11:20:00.0000000	14:00:00.0000000
12	401	Swan Lake Ballet	11	2023-05-29	6500	82	15:10:00.0000000	17:42:30.0000000
13	402	Дочка короля	11	2023-05-29	12000	50	08:00:00.0000000	09:00:00.0000000
14	403	Дочка короля	11	2023-05-29	12000	50	19:00:00.0000000	20:00:00.0000000