**Создание таблиц**:

CREATE TABLE card (

id INT,

pan INT,

expire DATE,

subscriber\_id INT,

constraint CARD\_PK PRIMARY KEY (id)

);

CREATE TABLE subscriber (

id INT,

msisdn INT,

constraint SUBSCRIBER\_PK PRIMARY KEY (id)

);

INSERT INTO subscriber (id, msisdn) VALUES (1, 111);

INSERT INTO subscriber (id, msisdn) VALUES (2, 222);

INSERT INTO subscriber (id, msisdn) VALUES (3, 333);

INSERT INTO subscriber (id, msisdn) VALUES (4, 444);

INSERT INTO card (id, pan, expire, subscriber\_id) VALUES (1, 111, DATE '2020-01-01', 1);

INSERT INTO card (id, pan, expire, subscriber\_id) VALUES (2, 222, DATE '2020-01-01', 2);

INSERT INTO card (id, pan, expire, subscriber\_id) VALUES (3, 333, DATE '2020-01-01', 3);

INSERT INTO card (id, pan, expire, subscriber\_id) VALUES (4, 444, DATE '2020-01-01', 4);

**кол-во карт по номеру абонента:**

CREATE FUNCTION count\_card(isdn IN NUMBER)

RETURN NUMBER

IS countCard NUMBER;

BEGIN

SELECT count(\*)

INTO countCard

FROM card

JOIN subscriber on subscriber.id = card.subscriber\_id

WHERE subscriber.msisdn = isdn;

RETURN(countCard);

END;

SELECT count\_card(111) FROM DUAL;

**данные по карте и абоненту по номеру абонента:**

CREATE TYPE CARD\_INFO\_OBJECT AS OBJECT (

msisdn INT ,

pan INT,

expire DATE

);

CREATE TYPE CARD\_INFO\_TABLE AS TABLE OF CARD\_INFO\_OBJECT;

CREATE OR REPLACE FUNCTION CARD\_INF (isdn IN NUMBER)

RETURN CARD\_INFO\_TABLE

PIPELINED

AS

CURSOR CURSEUR\_ETAPE

IS

SELECT msisdn, pan, expire

FROM subscriber s

JOIN card c ON c.subscriber\_id = s.id

WHERE s.msisdn = isdn;

BEGIN

FOR i IN CURSEUR\_ETAPE

LOOP

PIPE ROW (CARD\_INFO\_TABLE (i.msisdn, i.pan, i.expire));

EXIT WHEN CURSEUR\_ETAPE%NOTFOUND;

END LOOP;

RETURN;

END;

SELECT \* FROM table(CARD\_INF(111));