

-- Crearea tabelelor

```
CREATE TABLE Persoane (  
    idpers INT PRIMARY KEY,  
    nume VARCHAR(50) NOT NULL,  
    adresa VARCHAR(100) NOT NULL,  
    gen CHAR(1) NOT NULL,  
    data_nasterii DATE NOT NULL  
);
```

```
CREATE TABLE Conturi (  
    nrcont VARCHAR2(20) PRIMARY KEY,  
    sold NUMBER(10,2) NOT NULL,  
    idpers INT NOT NULL,  
    FOREIGN KEY (idpers) REFERENCES Persoane(idpers)  
);
```

```
CREATE TABLE Carduri (  
    nrcard VARCHAR(20) PRIMARY KEY,  
    data_de_la DATE NOT NULL,  
    data_la DATE NOT NULL,  
    limita FLOAT NOT NULL,  
    nrcont VARCHAR(20) NOT NULL,  
    tip VARCHAR(20) NOT NULL,  
    categorii VARCHAR(20) NOT NULL,  
    FOREIGN KEY (nrcont) REFERENCES Conturi(nrcont)  
);
```

-- Modificări ale tabelelor existente

```
ALTER TABLE Persoane MODIFY adresa VARCHAR(150);
```

-- Adăugarea constrângerilor de cheie străină

```
ALTER TABLE Conturi ADD CONSTRAINT fk_persoane_id FOREIGN KEY (idpers) REFERENCES  
Persoane (idpers);
```

```
ALTER TABLE Carduri ADD CONSTRAINT fk_conturi_nr FOREIGN KEY (nrcont) REFERENCES Conturi  
(nrcont);
```

-- Crearea vederii

```
CREATE VIEW CărțiMastercard AS
```

```
SELECT idpers, nume, adresa, gen, data_nasterii, nrcont, sold, nrcard,  
data_de_la, data_la, limita
```

```
FROM Carduri
```

```
JOIN Conturi ON Carduri.nrcont = Conturi.nrcont
```

```
JOIN Persoane ON Conturi.idpers = Persoane.idpers
```

```
WHERE tip = 'MASTERCARD';
```

-- Crearea procedurii stocate

```
CREATE OR REPLACE PROCEDURE Insert_Into_Exceptions IS
```

```
CURSOR card_cur IS
```

```
SELECT cd.nrcard, cd.data_de_la, cd.data_la, cd.limita, cd.nrcont, cd.tip, cd.categorie
```

```
FROM conturi co
```

```
JOIN carduri cd ON (co.nrcont = cd.nrcont)
```

```
RIGHT OUTER JOIN miscari m ON (cd.nrcard = m.nrcard)
```

```
WHERE co.sold < m.valoare OR TO_CHAR(m.data_ora, 'YYYY-MM') = TO_CHAR(cd.data_la, 'YYYY-  
MM');
```

```
BEGIN
```

```
FOR rec IN card_cur LOOP
```

```
INSERT INTO Exceptii (nrcard, data_de_la, data_la, limita, nrcont, tip, categorie, natura)
```

```
VALUES (rec.nrcard, rec.data_de_la, rec.data_la, rec.limita, rec.nrcont, rec.tip, rec.categorie,  
NULL);
```

```
END LOOP;
```

```
END;
```

```
-- Crearea declanșatorului
```

```
CREATE OR REPLACE TRIGGER UpdateAccountBalance
```

```
AFTER INSERT ON Miscari
```

```
FOR EACH ROW
```

```
BEGIN
```

```
    UPDATE Conturi
```

```
    SET sold = sold - :NEW.valoare
```

```
    WHERE nrcont = (SELECT cd.nrcont FROM Conturi co JOIN Carduri cd ON (co.nrcont = cd.nrcont)
WHERE cd.nrcard = :NEW.nrcard);
```

```
END;
```

```
-- Inserarea datelor pentru verificare
```

```
INSERT INTO Persoane (idpers, nume, adresa, gen, data_nasterii)
```

```
VALUES
```

```
(1, 'John Doe', '123 Main Street', 'M', '1990-01-01'),
```

```
(2, 'Jane Smith', '456 Elm Street', 'F', '1995-05-10'),
```

```
(3, 'Michael Johnson', '789 Oak Street', 'M', '1988-09-15'),
```

```
(4, 'Emily Davis', '321 Pine Street', 'F', '1992-07-20'),
```

```
(5, 'David Wilson', '654 Cedar Street', 'M', '1998-03-05');
```

```
INSERT INTO Conturi (nrcont, sold, idpers)
```

```
VALUES
```

```
('12345678', 1500.00, 1),
```

```
('87654321', 2000.00, 2),
```

```
('98765432', 3000.00, 3),
```

```
('23456789', 2500.00, 4),
```

('34567890', 1800.00, 5);

INSERT INTO Carduri (nrcard, data_de_la, data_la, limita, nrcont, tip, categorie)

VALUES

('1111-2222-3333-4444', '2023-01-01', '2023-12-31', 5000.00, '12345678', 'MASTERCARD', 'CREDIT'),

('2222-3333-4444-5555', '2023-02-01', '2023-11-30', 3000.00, '87654321', 'VISA', 'DEBIT'),

('3333-4444-5555-6666', '2023-03-01', '2023-10-31', 2000.00, '98765432', 'MASTERCARD', 'CREDIT'),

('4444-5555-6666-7777', '2023-04-01', '2023-09-30', 4000.00, '65432109', 'VISA', 'DEBIT'),

('5555-6666-7777-8888', '2023-05-01', '2023-08-31', 2500.00, '09876543', 'MASTERCARD', 'CREDIT');

INSERT INTO Miscari (nrcard, data_ora, valoare, scop)

VALUES

('1111-2222-3333-4444', TO_DATE('2023-01-01 09:30:00', 'YYYY-MM-DD HH24:MI:SS'), 100.00, 'Cumparare alimente'),

('2222-3333-4444-5555', TO_DATE('2023-02-02 14:15:00', 'YYYY-MM-DD HH24:MI:SS'), 50.00, 'Cumparare haine'),

('3333-4444-5555-6666', TO_DATE('2023-03-10 17:45:00', 'YYYY-MM-DD HH24:MI:SS'), 200.00, 'Cumparare electrocasnice'),

('4444-5555-6666-7777', TO_DATE('2023-04-15 11:00:00', 'YYYY-MM-DD HH24:MI:SS'), 75.00, 'Cumparare carti'),

('5555-6666-7777-8888', TO_DATE('2023-05-20 08:30:00', 'YYYY-MM-DD HH24:MI:SS'), 120.00, 'Cumparare electronice');