**Exercise 3: Stored Procedures**

**Scenario 1:** The bank needs to process monthly interest for all savings accounts.

* + **Question:** Write a stored procedure ProcessMonthlyInterest that calculates and updates the balance of all savings accounts by applying an interest rate of 1% to the current balance.

create table accounts (

account\_id number primary key,

balance number,

account\_type varchar2(20)

);

insert into accounts values (1, 10000, 'savings');

insert into accounts values (2, 20000, 'current');

insert into accounts values (3, 15000, 'savings');

create or replace procedure processmonthlyinterest is

begin

for acc in (

select account\_id, balance

from accounts

where account\_type = 'savings'

) loop

update accounts

set balance = acc.balance + (acc.balance \* 0.01)

where account\_id = acc.account\_id;

end loop;

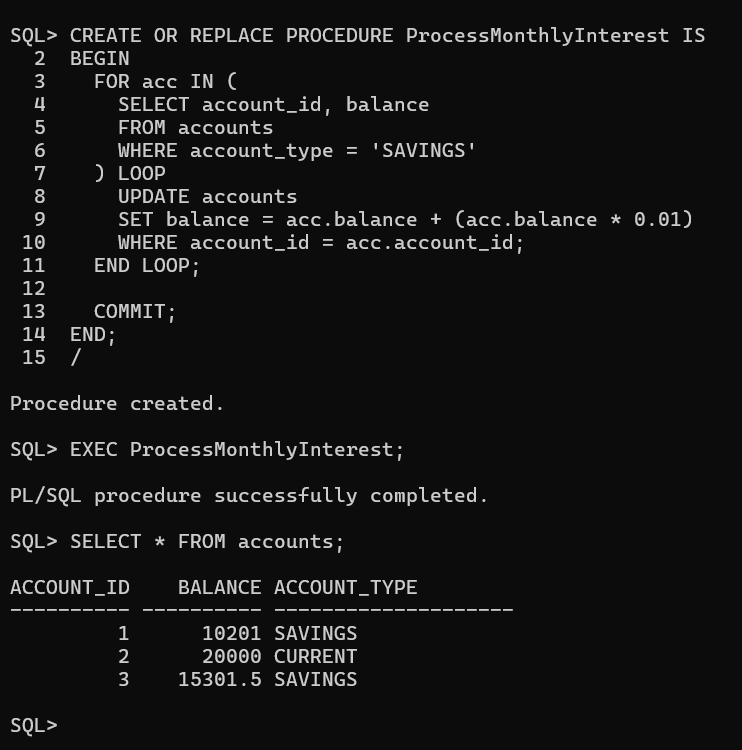
commit;

end;

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EXEC ProcessMonthlyInterest;

**Output:**



**Scenario 2:** The bank wants to implement a bonus scheme for employees based on their performance.

* + **Question:** Write a stored procedure **UpdateEmployeeBonus** that updates the salary of employees in a given department by adding a bonus percentage passed as a parameter.

create table employees (

employee\_id number,

department\_id number,

salary number

); insert into employees values (1, 101, 50000);

insert into employees values (2, 102, 60000);

insert into employees values (3, 101, 55000);

commit; create or replace procedure updateemployeebonus (

p\_dept\_id in number,

p\_bonus\_percent in number

) is

begin

update employees

set salary = salary + (salary \* p\_bonus\_percent / 100)

where department\_id = p\_dept\_id;

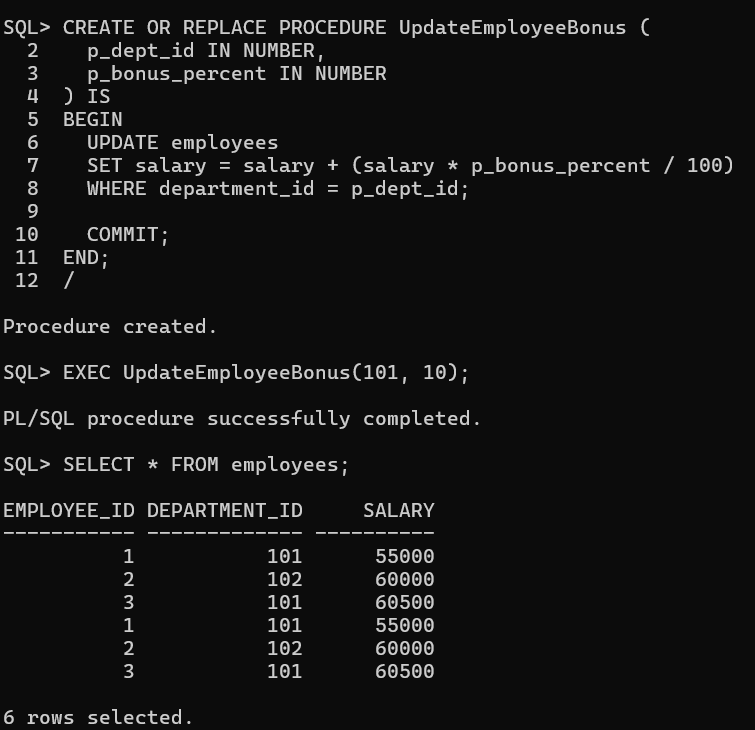
commit;

end;

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exec updateemployeebonus(101, 10);

**Output:**



**Scenario 3:** Customers should be able to transfer funds between their accounts.

**o Question:** Write a stored procedure TransferFunds that transfers a specified amount from one account to another, checking that the source account has sufficient balance before making the transfer.

CREATE OR REPLACE PROCEDURE TransferFunds (

p\_from\_account IN NUMBER,

p\_to\_account IN NUMBER,

p\_amount IN NUMBER

) IS

v\_balance NUMBER;

BEGIN

SELECT balance INTO v\_balance

FROM accounts

WHERE account\_id = p\_from\_account

FOR UPDATE;

IF v\_balance < p\_amount THEN

RAISE\_APPLICATION\_ERROR(-20001, 'Insufficient balance in source account.');

END IF;

UPDATE accounts

SET balance = balance - p\_amount

WHERE account\_id = p\_from\_account;

UPDATE accounts

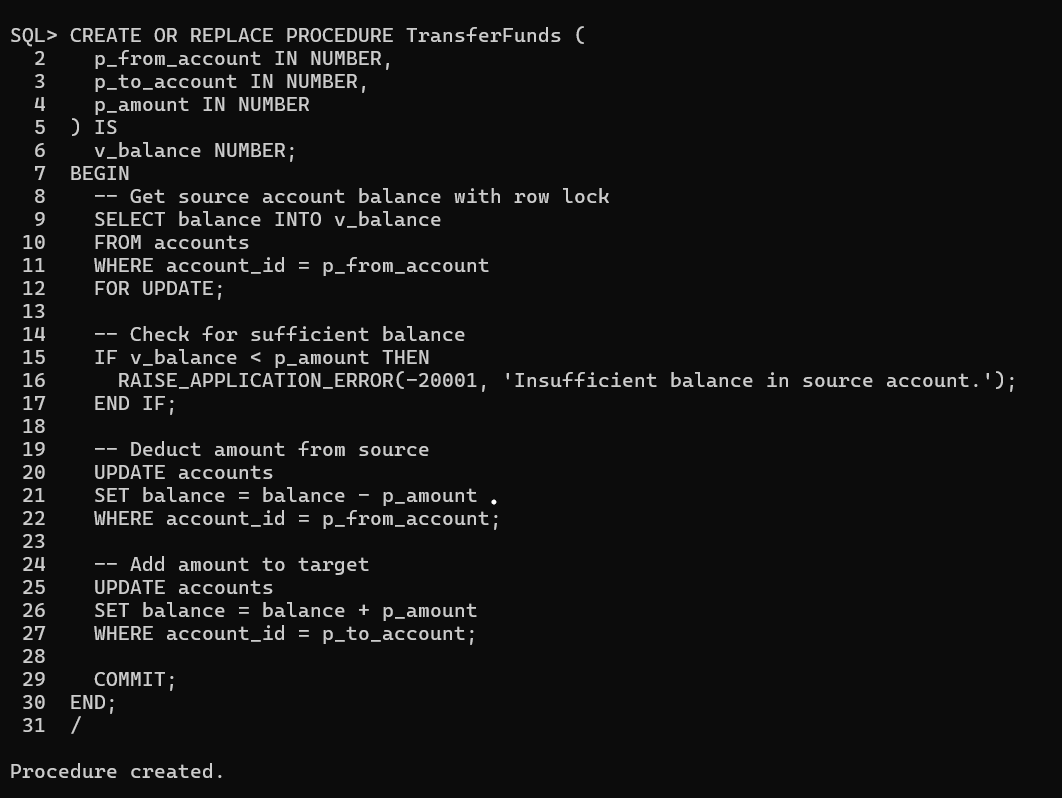
SET balance = balance + p\_amount

WHERE account\_id = p\_to\_account;

COMMIT;

END;

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