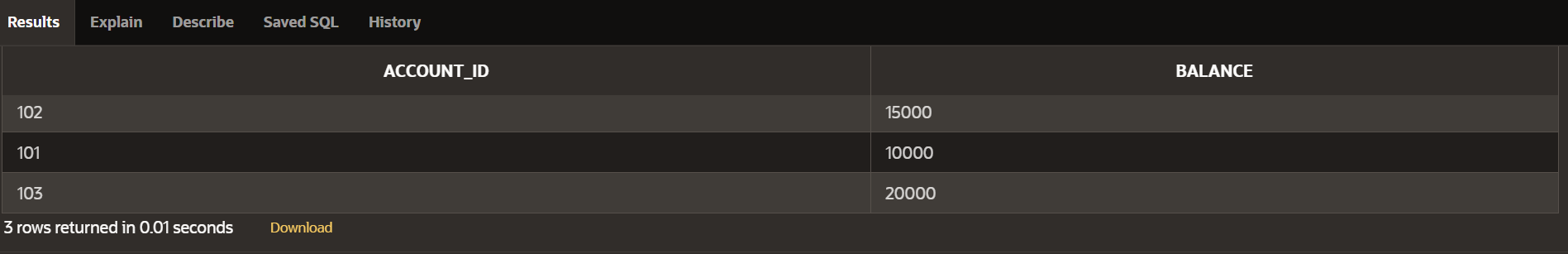
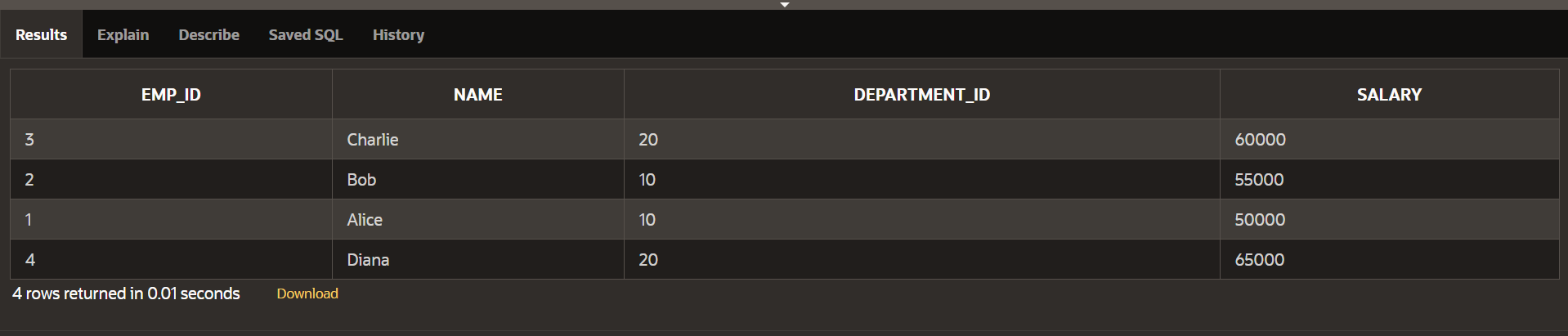
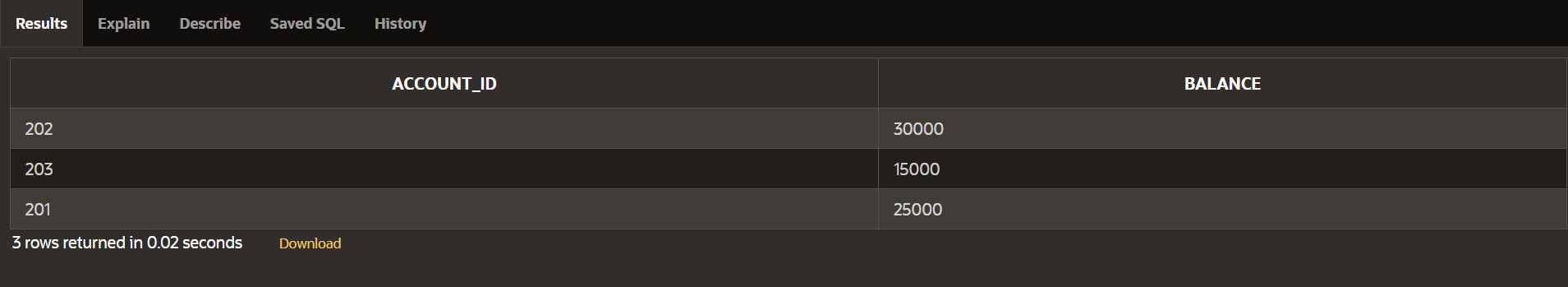
**Exercise 3: Stored Procedures**

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**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 OR REPLACE PROCEDURE ProcessMonthlyInterest IS

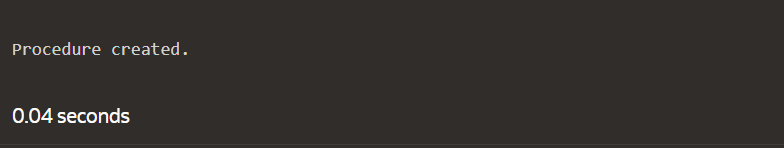
BEGIN

UPDATE savings\_accounts

SET balance = balance + (balance \* 0.01);

COMMIT;

END;



**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 OR REPLACE PROCEDURE UpdateEmployeeBonus(

dept\_id IN NUMBER,

bonus\_percent IN NUMBER

) IS

BEGIN

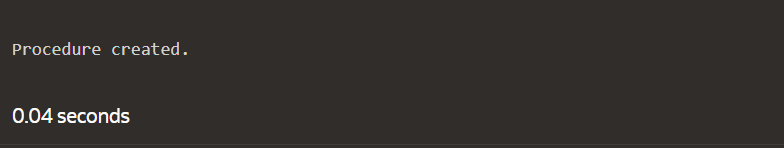
UPDATE employees

SET salary = salary + (salary \* (bonus\_percent / 100))

WHERE department\_id = dept\_id;

COMMIT;

END;



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

**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(

from\_account\_id IN NUMBER,

to\_account\_id IN NUMBER,

amount IN NUMBER

) IS

insufficient\_balance EXCEPTION;

BEGIN

DECLARE

from\_balance NUMBER;

BEGIN

SELECT balance INTO from\_balance FROM bank\_accounts WHERE account\_id = from\_account\_id;

IF from\_balance < amount THEN

RAISE insufficient\_balance;

END IF;

END;

UPDATE bank\_accounts

SET balance = balance - amount

WHERE account\_id = from\_account\_id;

UPDATE bank\_accounts

SET balance = balance + amount

WHERE account\_id = to\_account\_id;

COMMIT;

EXCEPTION

WHEN insufficient\_balance THEN

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

WHEN OTHERS THEN

ROLLBACK;

RAISE;

END;

