Advanced Database Topics (COMP-8157)



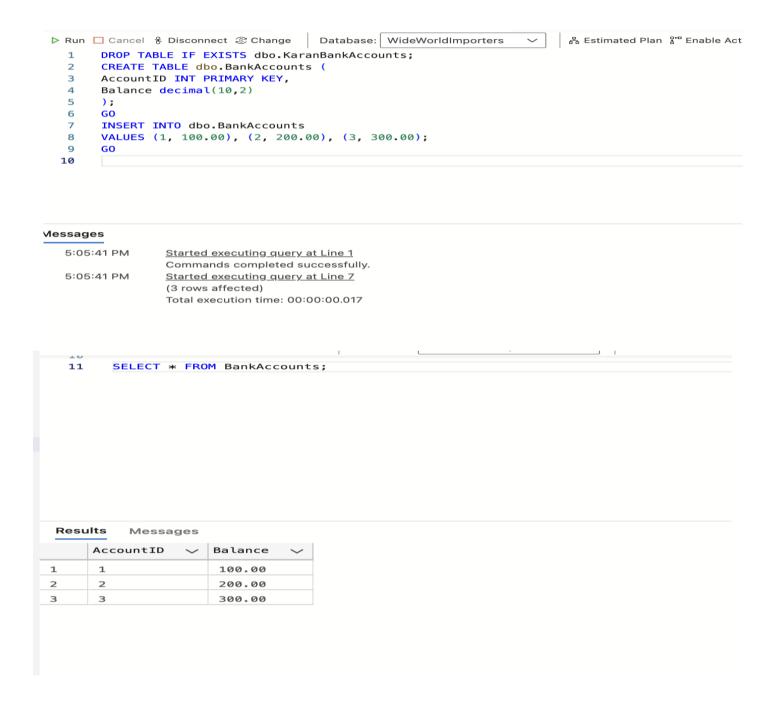
<u>Lab-3</u>

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Section: 3

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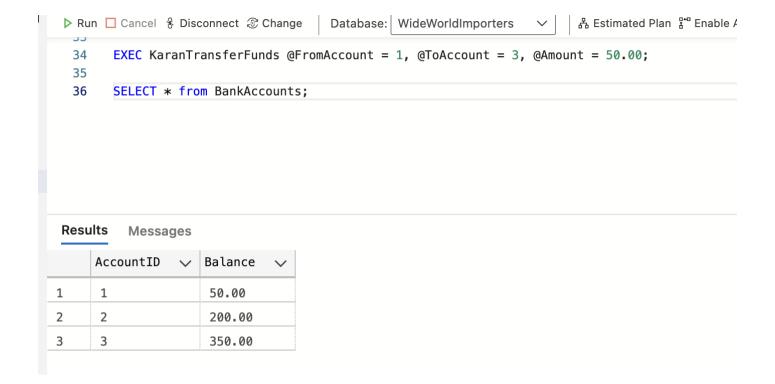
Build a Bank accounts table, and then add a couple of rows of data.



Create a stored procedure named, <yourfirstname>TransferFunds, that contains a transaction for transferring funds.

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> Kun 🔟 Cancel 🎖 Disconnect 😸 Change | Database: | Wideworldimporters - 🗸 | | 🚓 Estimated Plan 🚦 Enable Actual Plan 🗸 Parse 🖼 Disable SQLCMD 📑 וֹס אִּנִ
 1 CREATE OR ALTER PROCEDURE KaranTransferFunds
     @FromAccount INT.
     @ToAccount INT,
 4 @Amount DECIMAL(10, 2)
     AS
     BEGIN
     BEGIN TRANSACTION;
     BEGIN TRY
 8
     IF (SELECT Balance FROM dbo.BankAccounts WHERE AccountID = @FromAccount) < @Amount
10
     ROLLBACK TRANSACTION:
11
      THROW 50000, 'Insufficient funds in the Account', 1;
12
13
14
15
16
     UPDATE BankAccounts
17
     SET Balance = Balance - @Amount
18
      WHERE AccountID = @FromAccount;
19
20
21 UPDATE dbo.BankAccounts
     SET Balance = Balance + @Amount
     WHERE AccountID = @ToAccount;
23
24
25
     COMMIT TRANSACTION;
26
27
     END TRY
     BEGIN CATCH
     ROLLBACK TRANSACTION;
29
30
      THROW:
31
     END CATCH:
essages
             Started executing query at Line 1
               Commands completed successfully.
               Total execution time: 00:00:00.028
```

Test out your solution by transferring \$50 from account number one to account number three.



Add error handling to the above (ii) store procedure to make sure the following; a. Ensure the "FromAccount" has enough funds for the transfer

- b. Ensure the "FromAccount" actually exists in the table
- c. Ensure the "ToAccount" actually exists in the table

Your transaction should be successfully completed only after all three conditions are met

```
> Run □ Cancel 🖇 Disconnect 😵 Change | Database: | WideWorldImporters 💛 | 🖧 Estimated Plan 🖫 Enable Actual Plan 🗸 Parse 🗔 Disconnect
   1
       CREATE OR ALTER PROCEDURE KaranTransferFunds
   2
       @FromAccount INT,
   3
       @ToAccount INT,
   4
       @Amount DECIMAL(10, 2)
   5
       AS
   6
       BEGIN
   7
       BEGIN TRANSACTION;
   8
       BEGIN TRY
   9
       DECLARE @FromAccountBalance DECIMAL(10, 2);
       SELECT @FromAccountBalance = Balance FROM dbo.BankAccounts WHERE AccountID = @FromAccount;
  10
  11
       IF @FromAccountBalance < @Amount</pre>
  12
       BEGIN
  13
       ROLLBACK TRANSACTION;
  14
       THROW 50000, 'Insufficient funds in the Account.', 1;
  15
  16
  17
  18
       IF NOT EXISTS (SELECT 1 FROM dbo.BankAccounts WHERE AccountID = @FromAccount)
  19
  20
  21
       ROLLBACK TRANSACTION;
       THROW 50001, 'FromAccount does not exist.', 1;
  22
  23
  21
dessages
  5:53:33 PM
                Started executing query at Line 1
                Commands completed successfully.
                Total execution time: 00:00:00.011
Run ☐ Cancel 🕏 Disconnect 😂 Change | Database: | WideWorldImporters
                                                                             ∨ | | 品 Estimated Plan 音 Enable Actual
      EXEC KaranTransferFunds @FromAccount = 4, @ToAccount = 3, @Amount = 50.00;
sages
5:55:19 PM
                Started executing query at Line 1
                Msg 3903, Level 16, State 1, Procedure KaranTransferFunds, Line 44
                The ROLLBACK TRANSACTION request has no corresponding BEGIN TRANSACTION.
                Msg 50001, Level 16, State 1, Procedure KaranTransferFunds, Line 22
                FromAccount does not exist.
```

Total execution time: 00:00:00.026

Run Cancel & Disconnect & Change Database: WideWorldImporters V & Estimated Plan & Ena

1 EXEC KaranTransferFunds @FromAccount = 1, @ToAccount = 4, @Amount = 50.00;

ssages

5:55:43 PM Started executing query at Line 1
 Msg 3903, Level 16, State 1, Procedure KaranTransferFunds, Line 44
 The ROLLBACK TRANSACTION request has no corresponding BEGIN TRANSACTION.
 Msg 50002, Level 16, State 1, Procedure KaranTransferFunds, Line 29
 ToAccount does not exist.
 Total execution time: 00:00:00.004

1essages

5:56:09 PM Started executing query at Line 1

Msg 3903, Level 16, State 1, Procedure KaranTransferFunds, Line 44
The ROLLBACK TRANSACTION request has no corresponding BEGIN TRANSACTION.
Msg 50000, Level 16, State 1, Procedure KaranTransferFunds, Line 15

Insufficient funds in the Account.

Total execution time: 00:00:00.003