Trabalho 05 - BD2

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1. **Fazendo as alterações necessárias no arquivo JDBCUtilities.java:**

```java
public Connection getConnection() throws SQLException {
  Connection conn = null;
  Properties connectionProps = new Properties();
  connectionProps.put(key:"user", this.userName);
  connectionProps.put(key:"password", this.password);

  String currentUrlString = null;

  if (this.dbms.equals(anObject:"mysql")) {
    // currentUrlString = "jdbc:" + this.dbms + "://" + this.serverName + ":" +
    // this.portNumber + "/";
    // conn = DriverManager.getConnection(currentUrlString, connectionProps);
    // this.urlString = currentUrlString + this.dbName;
    // conn.setCatalog(this.dbName);
    currentUrlString = "jdbc:" + this.dbms + "://" + this.serverName + ":" + this.portNumber + "/" + this.dbName;
    conn = DriverManager.getConnection(currentUrlString, connectionProps);
    this.urlString = currentUrlString + this.dbName;
    conn.setCatalog(this.dbName);
  } else if (this.dbms.equals(anObject:"derby")) {
    // this.urlString = "jdbc:" + this.dbms + ":" + this.dbName;
    // conn = DriverManager.getConnection(this.urlString + ";create=true",
    // connectionProps);
    currentUrlString = "jdbc:" + this.dbms + "://" + this.serverName + ":" + this.portNumber + "/" + this.dbName;
    conn = DriverManager.getConnection(currentUrlString, connectionProps);
    this.urlString = currentUrlString + this.dbName;
    conn.setCatalog(this.dbName);
  } else if (this.dbms.equals(anObject:"postgresql")) {
    // currentUrlString = "jdbc:" + this.dbms + "://" + this.serverName + ":" +
    // this.portNumber + "/" + this.dbName;
    // conn = DriverManager.getConnection(currentUrlString, connectionProps);
    // this.urlString = currentUrlString + this.dbName;
    // conn.setCatalog(this.dbName);
    currentUrlString = "jdbc:" + this.dbms + "://" + this.serverName + ":" + this.portNumber + "/" + this.dbName;
    conn = DriverManager.getConnection(currentUrlString, connectionProps);
    this.urlString = currentUrlString + this.dbName;
    conn.setCatalog(this.dbName);
  }
  System.out.println(x:"Connected to database");
  return conn;
}
```

Compilando o arquivo JDBCUtilities.java

```
guilhermekameoka@MacBook-Air-de-Guilherme JDBCTutorial % ./comp JDBCUtilities properties/javadb-sample-properties.xml
Reading properties file /Users/guilhermekameoka/Desktop/mydir/JDBCTutorial/properties/javadb-sample-properties.xml
Set the following properties:
dbms: postgresql
driver: org.postgresql.Driver
dbName: IB
userName: guilhermekameoka
serverName: localhost
portNumber: 5432
Connected to database
Releasing all open resources ...
guilhermekameoka@MacBook-Air-de-Guilherme JDBCTutorial %
```

2. Configurando o arquivo comp:

```sh
#!/bin/sh -

# derby=/usr/share/java/derby.jar
derby=/opt/homebrew/opt/derby/libexec/lib/derbytools.jar
mypath=/Users/guilhermekameoka/Desktop/mydir/JDBCTutorial
mypackage=com/oracle/tutorial/jdbc

postgres=/Users/guilhermekameoka/Desktop/mydir/JDBCTutorial/BD2-14-postgresql-42.2.4.jar

if [ -r $mypath/src/$mypackage/$1.java -a -r $mypath/$2 ]
then
    javac -cp "$derby:$mypath/classes:$mypath/lib/JDBCTutorial.jar:$postgres" $mypath/src/$mypackage/$1.java

    if [ -r $mypath/src/$mypackage/$1.class ]
    then
        mv $mypath/src/$mypackage/$1.class $mypath/classes/$mypackage/

        java -cp "$derby:$mypath/classes:$postgres" $mypackage/$1 $mypath/$2
    fi
else
    echo Missing file, check:
    ls $mypath/src/$mypackage/$1.java
    ls $mypath/$2
fi
```

3. Implementação do MyQueries2.java para listar os nomes de todos os clientes que possuem apenas depósitos, bem como a soma de depósitos de cada cliente.

```java
public class MyQueries2 {

  Connection con;
  JDBCUtilities settings;

  public MyQueries2(Connection connArg, JDBCUtilities settingsArg) {
    this.con = connArg;
    this.settings = settingsArg;
  }

  Codeium: Refactor | Explain | Generate Javadoc
  public static void getMyData(Connection con) throws SQLException {
    Statement stmt = null;
    String query = "SELECT DISTINCT NOME_CLIENTE, SUM(SALDO_DEPOSITO) AS TOTAL_DEP " +
        "FROM DEPOSITO " +
        "WHERE NOME_CLIENTE NOT IN (SELECT DISTINCT NOME_CLIENTE FROM EMPRESTIMO) " +
        "GROUP BY NOME_CLIENTE";

    try {
      stmt = con.createStatement();
      ResultSet rs = stmt.executeQuery(query);
      System.out.println(x:"\nClientes que possuem apenas depositos:\n");
      while (rs.next()) {
        // String coffeeName = rs.getString(1);
        // System.out.println(" " + coffeeName);
        while (rs.next()) {
          String cliente = rs.getString(columnLabel:"NOME_CLIENTE");
          float soma = rs.getFloat(columnLabel:"TOTAL_DEP");
          System.out.printf(format:"Nome: %35s – Depositos: R$ %6.2f\n", cliente, soma);
        }
      }
    } catch (SQLException e) {
      JDBCUtilities.printSQLException(e);
    } finally {
      if (stmt != null) {
        stmt.close();
      }
    }
  }
}
```

Resultado da execução do MyQueries2.java:

```
guilhermekameoka@MacBook-Air-de-Guilherme JDBCTutorial % ./comp MyQueries2 properties/javadb-sample-properties.xml
Set the following properties:
dbms: postgresql
driver: org.postgresql.Driver
dbName: IB
userName: guilhermekameoka
serverName: localhost
portNumber: 5432
Connected to database

Clientes que possuem apenas depositos:

Nome:            Alexandre Marcio de Souza - Depositos: R$ 1201.37
Nome:               Cláudia Santos Mota - Depositos: R$ 3599.29
Nome:       Felippe Peres Bichara Junior - Depositos: R$ 7417.87
Nome:             Thiago Andrade Fiuza - Depositos: R$ 479.66
Nome:             Wantuil Diniz e Souza - Depositos: R$  84.17
Releasing all open resources ...
guilhermekameoka@MacBook-Air-de-Guilherme JDBCTutorial % 
```

4. **Implementação do MyQueries3.java para listar os nomes dos clientes que possuem depósitos e empréstimos (ambos) com as respectivas somas**

```java
public class MyQueries3 {

  Connection con;
  JDBCUtilities settings;

  public MyQueries3(Connection connArg, JDBCUtilities settingsArg) {
    this.con = connArg;
    this.settings = settingsArg;
  }

  Codeium: Refactor | Explain | Generate Javadoc
  public static void getMyData(Connection con) throws SQLException {
    Statement stmt = null;
    String query2 = "SELECT D.NOME_CLIENTE, SUM(SALDO_DEPOSITO) AS TOTAL_DEP, SUM(VALOR_EMPRESTIMO) AS TOTAL_EMP " +
        "FROM DEPOSITO D, " +
        "EMPRESTIMO E " +
        "WHERE D.NOME_CLIENTE = E.NOME_CLIENTE " +
        "GROUP BY D.NOME_CLIENTE";

    try {
      stmt = con.createStatement();
      ResultSet rs2 = stmt.executeQuery(query2);
      System.out.println(x:"\nClientes que possuem depositos e emprestimos:\n");
      while (rs2.next()) {
        String cliente = rs2.getString("NOME_CLIENTE");
        float deposito = rs2.getFloat("TOTAL_DEP");
        float emprestimo = rs2.getFloat("TOTAL_EMP");
        System.out.printf(format:"Nome: %35s - Depositos: R$ %10.2f - Emprestimos: R$ %12.2f\n", cliente, deposito, emprestimo);
      }
    } catch (SQLException e) {
      JDBCUtilities.printSQLException(e);
    } finally {
      if (stmt != null) {
        stmt.close();
      }
    }
  }
}
```

Resultado da execução do MyQueries3.java:

```
guilhermekameoka@MacBook-Air-de-Guilherme JDBCTutorial % ./comp MyQueries3 properties/javadb-sample-properties.xml
Set the following properties:
dbms: postgresql
driver: org.postgresql.Driver
dbName: IB
userName: guilhermekameoka
serverName: localhost
portNumber: 5432
Connected to database

Clientes que possuem depositos e emprestimos:

Nome:              Germano Luiz de Paula - Depositos: R$  209635.44 - Emprestimos: R$ 167570032.00
Nome:     Bruno Miranda Pacheco de Castro - Depositos: R$    2512.88 - Emprestimos: R$       1139.08
Nome:              Joaquim Carlos Reis - Depositos: R$     997.12 - Emprestimos: R$        805.88
Nome:          Thiago Leôncio Guimarães - Depositos: R$    3506.84 - Emprestimos: R$       1411.99
Nome:          Clayton Pereira Bonfim - Depositos: R$    3231.84 - Emprestimos: R$       1792.56
Nome:          Everardo Monfort Leitão - Depositos: R$    3562.54 - Emprestimos: R$       3773.96
Nome:            Andre Cabral da Silva - Depositos: R$    8980.94 - Emprestimos: R$       5225.96
Nome:                Carolina Soares - Depositos: R$    3516.28 - Emprestimos: R$       1324.74
Nome:            Marco Aurélio Santos - Depositos: R$    9493.32 - Emprestimos: R$       3775.64
Nome:                Marcos Andrade - Depositos: R$    3493.63 - Emprestimos: R$        886.85
Nome:        Gilmar Negreiros Carvalho - Depositos: R$   10230.12 - Emprestimos: R$       4234.10
```