CSC343 Worksheet 8

June 24, 2020

1. **Exercise 9.5.1:** Repeat Exercise 9.3.1, but write the code using C with CLI calls.

   a) **Notes:**

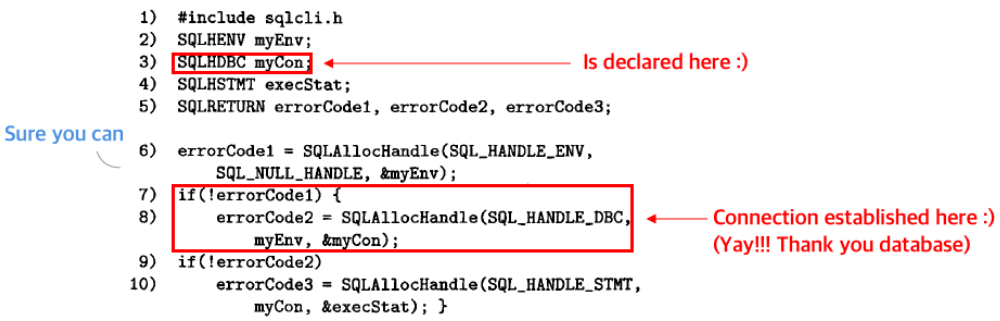
   - Using Call-Level Interface
     - Uses host language to connect to and access a database
     - Replaces embedded SQL
   - Standard SQL/CLI
     - Is database CLI for C
     - Included in file *sqlcli.h*
     - Creates deals with four kinds of records

       1. Environment handle
          * Prepares one or more connections to database server
          * Is required
          * Is allocated using **SQLHENV**
          * Is established via function **SQLAllocHandle**

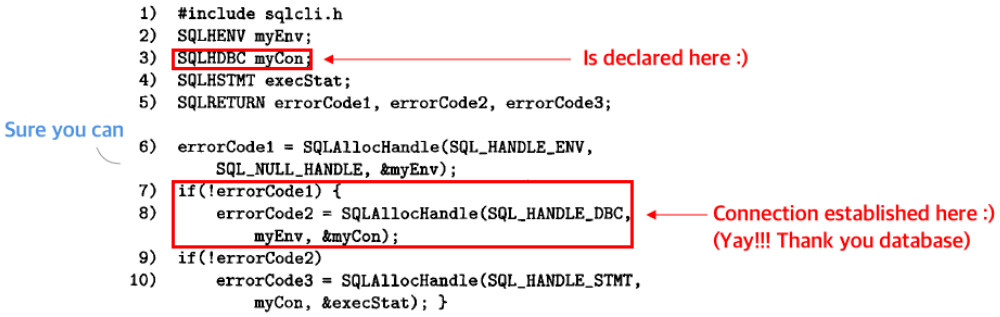
```
1)  #include sqlcli.h
2)  SQLHENV myEnv;
3)  SQLHDBC myCon;        <-- Is declared here :)
4)  SQLHSTMT execStat;
5)  SQLRETURN errorCode1, errorCode2, errorCode3;

6)  errorCode1 = SQLAllocHandle(SQL_HANDLE_ENV,   <-- Connection is prepared here :)
        SQL_NULL_HANDLE, &myEnv);                     (Hey DB, can I connect with you?)
7)  if(!errorCode1) {
8)      errorCode2 = SQLAllocHandle(SQL_HANDLE_DBC,
            myEnv, &myCon);
9)  if(!errorCode2)
10)     errorCode3 = SQLAllocHandle(SQL_HANDLE_STMT,
            myCon, &execStat); }
```

       2. Connection handle
          * Conenects application program to database
          * Is required
          * Is declared after **SQLHENV**

* Is allocated using **SQLHDBC**
* Is established via function **SQLAllocHandle**



3. Statements
   * Created by application program (the user)
   * Can be created as many as needed
   * Holds information about a single SQL statement, including cursor
   * Can represent different SQL statements at different times
   * Is required
   * Is declared after **SQLHDBC**
   * Is allocated using **SQLHSTMT**
   * Is sent using the function **SQLAllocHandle**



4. Descriptions

- Processing Statements
- Fetching Data From
- Passing Parameters to Queries

2. **Exercise 9.5.2:** Repeat Exercise 9.3.2, but write the code using C with CLI calls
3. **Exercise 9.6.1:** Repeat Exercise 9.3.1, but write the code using JAVA using JDBC.
4. **Exercise 9.6.2:** Repeat Exercise 9.3.2, but write the code using JAVA using JDBC.
5. **Exercise 9.7.1:** Repeat Exercise 9.3.1, but write the code using PHP.
6. **Exercise 9.7.2:** Repeat Exercise 9.3.2, but write the code using PHP.

7. **Exercise 9.7.3:** In Example 9.31 we exploited the feature of PHP that strings in double-quotes have variables expanded. How essential is this feature? Could we have done something analogous in JDBC? If so, how?