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// Illustrating ref cursor for a function with a parameter
import java.sql.*;
import oracle.jdbc.*;
import java.math.*;
import java.io.*;
import java.awt.*;
import oracle.jdbc.pool.OracleDataSource;

// This program shows how to get a record set from an Oracle stored
// procedure or function.
// Suppose we have a table students(sid, firstname, lastname, status,
// gpa, email), and a stored function called getstudents in a package,
// which returns students records with gpa higher than a given value.
// To return a result set from a stored procedure, you must use a
// cursor variable. Cursor variables are basically pointers to cursors,
// and you use them to pass around references to cursors, such as a
// parameter to a stored procedure. This PL/SQL type of a cursor variable
// is REF CURSOR.
//
// create a type of ref cursor and a function that returns a
// result of ref cursor:
//
// create or replace package refcursor_jdbc as
// type ref_cursor is ref cursor;
// function getstudents(vgpa in number)
// return ref_cursor;
// end;
// /
// show errors
//
// create or replace package body refcursor_jdbc as
// function getstudents(vgpa in number)
// return ref_cursor is
// rc ref_cursor;
// begin
// /* Open a ref cursor for a given query */
// open rc for
// select * from students2
// where gpa > vgpa;
// return rc;
// end;
// end;
// /
// show errors

public class mydemo4 {

    public static void main (String args []) throws SQLException {
        try
        {

            //Connecting to Oracle server.
            OracleDataSource ds = new oracle.jdbc.pool.OracleDataSource();
            ds.setURL("jdbc:oracle:thin:@castor.cc.binghamton.edu:1521:acad111");
            Connection conn = ds.getConnection("username", "password");

            //Prepare to call stored procedure:
            CallableStatement cs = conn.prepareCall("begin ? := refcursor_jdbc.getstudents(?);
end;");
            //register the out parameter (the first parameter)
            cs.registerOutParameter(1, OracleTypes.CURSOR);

            // Input gpg threshold from keyboard
            BufferedReader readKeyBoard;
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double          tgpa;
readKeyBoard = new BufferedReader(new InputStreamReader(System.in));
System.out.print("Please enter GPA threshold: ");
tgpa = Double.parseDouble(readKeyBoard.readLine());
cs.setDouble(2, tgpa);

// execute and retrieve the result set
cs.execute();
ResultSet rs = (ResultSet)cs.getObject(1);

// print the results
while (rs.next()) {
    System.out.println(rs.getString(1) + "\t" +
        rs.getString(2) + "\t" + rs.getString(3) +
        rs.getString(4) +
        "\t" + rs.getDouble(5) + "\t" +
        rs.getString(6));
}

//close the result set, statement, and the connection
cs.close();
conn.close();
}
catch (SQLException ex) { System.out.println ("\n*** SQLException caught ***\n" +
ex.getMessage());}
catch (Exception e) {System.out.println ("\n*** other Exception caught ***\n");}
}
}
```