```java
package model;

import java.sql.Connection;

class ItemDAO
{
    private static final String DB_URL = "jdbc:derby://localhost:64413/EECS;user=student;password=secret";
    private static ItemDAO instance = null;

    private ItemDAO() throws Exception
    {
        Class.forName("org.apache.derby.jdbc.ClientDriver").newInstance();
    }

    static synchronized ItemDAO getInstance() throws Exception
    {
        if(instance == null)
            instance = new ItemDAO();
        return instance;
    }

    private class GeneratePreparedStatement
    {
        private Connection conn;
        PreparedStatement ps;

        GeneratePreparedStatement(String query) throws Exception
        {
            conn = DriverManager.getConnection(DB_URL);
            ps = conn.prepareStatement("SET SCHEMA ROUMANI");
            ps.executeUpdate();
            ps.close();
            ps = conn.prepareStatement(query);
        }

        PreparedStatement getPs()
        {
            return ps;
        }

        void closeConnection() throws Exception
        {
            if (!ps.isClosed()) this.ps.close();
            if(!conn.isClosed()) this.conn.close();
        }


    }
    List<ItemBean> getItems(String catalog, String orderBy)throws Exception
    {
        GeneratePreparedStatement psGenerator = null;
        ResultSet rs = null;
        try
        {
            //building sql
            String sql = "SELECT * FROM ITEM";
            sql = sql + " WHERE CATID=" + Integer.parseInt(catalog);
            sql = orderBy == null? sql : sql + " ORDER BY " + orderBy;
            System.out.println("sql=" + sql);
            psGenerator = new GeneratePreparedStatement(sql);
            PreparedStatement ps = psGenerator.getPs();
            rs = ps.executeQuery();
            List<ItemBean> items = new ArrayList<ItemBean>();
            while(rs.next())
            {
                //ItemBean(String name, String number, double price, int catalog, String unit)
                String name = rs.getString("NAME");
                String number = rs.getString("NUMBER");
                double price = rs.getDouble("PRICE");
                int catalogID = rs.getInt("CATID");
                String unit = rs.getString("UNIT");

                items.add(new ItemBean(name, number, price, catalogID, unit));
            }
            if (items.size() < 1)
                throw new Exception("No Items Found");
            return items;
        }
        catch (Exception e)
        {
            throw e;
        }
        finally
        {
            if(rs != null && !rs.isClosed()) rs.close();
            if(psGenerator != null ) psGenerator.closeConnection();
        }
    }


    ItemBean getItem(String number) throws Exception
    {
```

```java
        GeneratePreparedStatement psGenerator = null;
        ResultSet rs = null;
        try
        {
            String sql = "SELECT * FROM ITEM WHERE NUMBER='" + number + "'";

//          ps.setString(1, number);
//          System.out.println(ps.toString());
//          rs =ps.executeQuery();

            psGenerator = new GeneratePreparedStatement(sql);
            PreparedStatement ps = psGenerator.getPs();
            rs = ps.executeQuery();
            if (rs.getRow() < 0)
                throw new Exception ("No item with number " + number);
            ItemBean result = null;
            if(rs.next())
            {
                String name = rs.getString("NAME");
                String itemNumber = rs.getString("NUMBER");
                double price = rs.getDouble("PRICE");
                int catalogID = rs.getInt("CATID");
                String unit = rs.getString("UNIT");

                result = new ItemBean(name, itemNumber, price, catalogID, unit);
            }
            return result;
        }
        catch (Exception e)
        {
            throw e;
        }
        finally
        {
            if(rs != null && !rs.isClosed()) rs.close();
            if(psGenerator != null ) psGenerator.closeConnection();
        }
    }

    List<CatalogBean> getCatalogs() throws Exception
    {
        GeneratePreparedStatement psGenerator = null;
        ResultSet rs = null;
        try
        {

            String sql = "SELECT * FROM CATEGORY";

            psGenerator = new GeneratePreparedStatement(sql);
            PreparedStatement ps = psGenerator.getPs();
            rs =ps.executeQuery();
            List<CatalogBean> result = new ArrayList<CatalogBean>();
            while(rs.next())
            {
                String name = rs.getString("NAME");
                String description = rs.getString("DESCRIPTION");
                int id = rs.getInt("ID");
                result.add(new CatalogBean(name, description, id));
            }
            return result;
        }
        catch (Exception e)
        {
            throw e;
        }
        finally
        {
            if(rs != null && !rs.isClosed()) rs.close();
            if(psGenerator != null ) psGenerator.closeConnection();
        }
    }

}
```