

Populate.java source code Snapshots

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import java.io.BufferedReader;
import java.io.FileNotFoundException;
import java.io.FileReader;
import java.io.IOException;
import java.sql.*;
import java.util.ArrayList;

public class Populate {

    static Connection connection;
    public static void insertIncident(String fileName){
        try{
            BufferedReader incident_BR = new BufferedReader(new FileReader(fileName));
            String incidentStr = null;

            String incidentTruncSql = "truncate table incident;";
            Statement statement = connection.createStatement();
            statement.execute(incidentTruncSql);
            while((incidentStr = incident_BR.readLine()) != null){
                String [] values1 = incidentStr.split(",");
                int unique_incident_ID = Integer.parseInt(values1[0].trim());
                String type_of_incident = values1[1].trim().replaceAll("\\\"", "");
                String incident_Coord_Lat = values1[2].trim();
                String incident_Coord_Long = values1[3].trim();

                String incidentSql = "INSERT INTO incident VALUES (?, ?, ST_PointFromText(?));";
                PreparedStatement prepStmt = connection.prepareStatement(incidentSql);
                prepStmt.setInt(1, unique_incident_ID);
                prepStmt.setString(2, type_of_incident);
                String pointString = "Point("+incident_Coord_Lat+" "+incident_Coord_Long+")";

                String pointString = "Point("+incident_Coord_Lat+" "+incident_Coord_Long+")";
                prepStmt.setString(3, pointString);
                prepStmt.executeUpdate();
            }
        } catch (FileNotFoundException fn){
            System.out.println("File not found, please verify the path for incident.txt file ");
        } catch (IOException io){
            System.out.println("Error in accessing the data in file incident.file");
        } catch (SQLException sqe){
            System.out.println("SQLException found");
        } catch (NullPointerException ne){
            System.out.println("Required data objects not found : Either database or table Incident");
        }
    }

    public static void insertOfficer(String fileName) {
        try {
            BufferedReader officer_BR = new BufferedReader(new FileReader(fileName));
            String officerStr = null;

            String officerTruncSql = "truncate table officer;";
            Statement statement = connection.createStatement();
            statement.execute(officerTruncSql);
            while ((officerStr = officer_BR.readLine()) != null) {
                String[] values1 = officerStr.split(",");
                int unique_Badge_Number = Integer.parseInt(values1[0].trim());
                String officer_Name = values1[1].trim().replaceAll("\\\"", "");
                int squad_Number = Integer.parseInt(values1[2].trim());
                String officer_Location_Lat = values1[3].trim();
                String officer_Location_Long = values1[4].trim();
            }
        }
    }
}
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        String officerSql = "INSERT INTO officer VALUES (?, ?, ?, ST_PointFromText(?));";
        PreparedStatement prepStmt = connection.prepareStatement(officerSql);
        prepStmt.setInt(1, unique_Badge_Number);
        prepStmt.setString(2, officer_Name);
        prepStmt.setInt(3, squad_Number);
        String pointString = "Point(" + officer_Location_Lat + " " + officer_Location_Long + ")";
        prepStmt.setString(4, pointString);
        prepStmt.executeUpdate();
    }
} catch (FileNotFoundException fn) {
    System.out.println("File not found, please verify the path for officer.txt file ");
} catch (IOException io) {
    System.out.println("Error in accessing the data in file officer.file");
} catch (SQLException sqe) {
    System.out.println("SQLException found");
} catch (NullPointerException ne) {
    System.out.println("Required data objects not found : Either database or table Officer");
}
}

public static void insertRoute(String fileName) {
    try {
        BufferedReader route_BR = new BufferedReader(new FileReader(fileName));
        String routeStr = null;
        String routeTruncSql = "truncate table route;";
        Statement statement = connection.createStatement();
        statement.execute(routeTruncSql);
        while ((routeStr = route_BR.readLine()) != null) {
            String [] values1 = routeStr.split(",");

            String [] values1 = routeStr.split(",");
            int unique_Route_Number = Integer.parseInt(values1[0].trim());
            int number_Of_Vertices = Integer.parseInt(values1[1].trim());
            String route_Coord = "";
            for (int i = 2; i < (number_Of_Vertices * 2 + 2); i++) {
                route_Coord += values1[i] + " ";
            }
            route_Coord = route_Coord.trim().replaceAll("(\\s\\s[^\\s\\s]*)\\s\\s", "$1,");

            String routeSql = "INSERT INTO route VALUES (?, ?, ST_LineStringFromText(?));";
            PreparedStatement prepStmt = connection.prepareStatement(routeSql);
            prepStmt.setInt(1, unique_Route_Number);
            prepStmt.setInt(2, number_Of_Vertices);
            String routeString = "LINESTRING(" + route_Coord + ")";
            prepStmt.setString(3, routeString);
            prepStmt.executeUpdate();
        }
    } catch (FileNotFoundException fn) {
        System.out.println("File not found, please verify the path for route.txt file ");
    } catch (IOException io) {
        System.out.println("Error in accessing the data in file route.file");
    } catch (SQLException sqe) {
        System.out.println("SQLException found");
    } catch (NullPointerException ne) {
        System.out.println("Required data objects not found : : Either database or table Route");
    }
}

public static void insertZone(String fileName) {
    try {

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try {
    BufferedReader zone_BR = new BufferedReader(new FileReader(fileName));
    String zoneStr = null;
    String zoneTruncSql = "truncate table zone;";
    Statement statement = connection.createStatement();
    statement.execute(zoneTruncSql);
    while((zoneStr = zone_BR.readLine()) != null){
        String [] values1 = zoneStr.trim().split(",");
        int zoneID = Integer.parseInt(values1[0].trim());
        String zoneName = values1[1].trim().replaceAll("\\\\", "\\");
        int squadNumber = Integer.parseInt(values1[2].trim());
        int polygonVertices = Integer.parseInt(values1[3].trim());
        String polygonCoord = "";
        String loopPolygonCoord = values1[4] + " " + values1[5];
        for (int i =4; i<(polygonVertices*2+4);i++){
            polygonCoord += values1[i] + " ";
        }
        polygonCoord = (polygonCoord + " " + loopPolygonCoord).trim().replaceAll("(\\s\\s[^\\s\\s]*)\\s\\s",
"$1,");

        String zoneSql = "INSERT INTO zone VALUES (?, ?, ?, ?, ST_PolygonFromText(?));";
        PreparedStatement prepStmt = connection.prepareStatement(zoneSql);
        prepStmt.setInt(1, zoneID);
        prepStmt.setString(2, zoneName);
        prepStmt.setInt(3, squadNumber);
        prepStmt.setInt(4, polygonVertices);
        String zoneString = "POLYGON((" + polygonCoord + "))";
        prepStmt.setString(5, zoneString);
        prepStmt.executeUpdate();
    }
} catch (FileNotFoundException fn){
    System.out.println("File not found, please verify the path for zone.txt file ");
} catch (IOException io){
    System.out.println("Error in accessing the data in file zone.file");
} catch (SQLException sqe){
    System.out.println("SQLException found");
} catch (NullPointerException ne){
    System.out.println("Required data objects not found : : Either database or table Zone");
}

}

public static void createConnection(String fileName){

    try {
        Class.forName("com.mysql.jdbc.Driver");

        BufferedReader bufferedReader = new BufferedReader(new FileReader(fileName));
        ArrayList<String> list = new ArrayList<String>();
        String str;

        while ((str = bufferedReader.readLine()) != null) {
            list.add(str);
        }

        String host = list.get(0);
        String port = list.get(1);
        String DB = list.get(2);
        String userName = list.get(3);
        String password = list.get(4);

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        connection = DriverManager.getConnection("jdbc:mysql://" + host + ":" + port + "/" + DB + "?useSSL=false", userName ,
        password);
        System.out.println("Database Connection Successful");
    } catch (
        FileNotFoundException fn){
        System.out.println("File not found please verify the path for db.properties file ");
    } catch (
        IOException io){
        System.out.println("Error in accessing the data in file db.properties");
    } catch (
        SQLException sqe){
        System.out.println("SQLException found");
    } catch (ClassNotFoundException cnf){
        System.out.printf("forName class not found");
    } catch (NullPointerException ne){
        System.out.println("Required data objects not found");
    }
}

public static void main(String[] args) {

    try {
        createConnection(args[0]);
        insertIncident(args[4]);
        insertOfficer(args[2]);
        insertRoute(args[3]);
        insertZone(args[1]);

    } catch (ArrayIndexOutOfBoundsException ae){
        System.out.println("Please pass correct number of arguments");
    }
}

```