**Query album by Artists method**

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| **package** com.company;  **import** com.company.model.Datasourse; **import** java.util.List;  **public class** Main {   **public static void** main(String[] args) {  Datasourse d = **new** Datasourse();  **if**(!d.open()) {  System.***out***.println(**"Can't open d"**);  **return**;  }   List<Artists> xmp = Datasourse.*queryArtists*(Datasourse.***ORDER\_BY\_DESC***);  **if** (xmp != **null**){  **for** (Artists at : xmp){  System.***out***.println(at.getName() + **" "** + at.getId());  }  }   List<String> albumsForArtist =  d.queryAlbumsForArtist(**"Iron Maiden"**, d.***ORDER\_BY\_ASC***);   **for**(String album : albumsForArtist) {  System.***out***.println(album);  }    d.close();  } }  **Artists 🡪**  **package** com.company;  **public class** Artists {   **private int id**;  **private** String **name**;   **public int** getId() {  **return id**;  }   **public void** setId(**int** id) {  **this**.**id** = id;  }   **public** String getName() {  **return name**;  }   **public void** setName(String name) {  **this**.**name** = name;  } } | **package** com.company.model;  **import** com.company.Artists;  **import** java.sql.\*; **import** java.util.ArrayList; **import** java.util.List;  **public class** Datasourse {   **public static final** String ***DB\_NAME*** = **"music.db"**;   **public static final** String ***CONNECTION\_STRING*** = **"jdbc:sqlite:C:\\javadb\\"** + ***DB\_NAME***;   *//column from database comes by a perticular order* **public static final** String ***TABLE\_ALBUMS*** = **"albums"**;  **public static final** String ***COLUMN\_ALBUM\_ID*** = **"\_id"**;  **public static final** String ***COLUMN\_ALBUM\_NAME*** = **"name"**;  **public static final** String ***COLUMN\_ALBUM\_ARTIST*** = **"artist"**;  **public static final int *INDEX\_ALBUM\_ID*** = 1;  **public static final int *INDEX\_ALBUM\_NAME*** = 2;  **public static final int *INDEX\_ALBUM\_ARTIST*** = 3;   **public static final** String ***TABLE\_ARTISTS*** = **"artists"**;  **public static final** String ***COLUMN\_ARTIST\_ID*** = **"\_id"**;  **public static final** String ***COLUMN\_ARTIST\_NAME*** = **"name"**;  **public static final int *INDEX\_ARTIST\_ID*** = 1;  **public static final int *INDEX\_ARTIST\_NAME*** = 2;   **public static final** String ***TABLE\_SONGS*** = **"songs"**;  **public static final** String ***COLUMN\_SONG\_TRACK*** = **"track"**;  **public static final** String ***COLUMN\_SONG\_TITLE*** = **"title"**;  **public static final** String ***COLUMN\_SONG\_ALBUM*** = **"album"**;  **public static final int *INDEX\_SONG\_ID*** = 1;  **public static final int *INDEX\_SONG\_TRACK*** = 2;  **public static final int *INDEX\_SONG\_TITLE*** = 3;  **public static final int *INDEX\_SONG\_ALBUM*** = 4;   **public static final int *ORDER\_BY\_NONE*** = 1;  **public static final int *ORDER\_BY\_ASC*** = 2;  **public static final int *ORDER\_BY\_DESC*** = 3;   **public static final** String ***QUERY\_ALBUMS\_BY\_ARTIST\_START*** =  **"SELECT "** + ***TABLE\_ALBUMS*** + **'.'** + ***COLUMN\_ALBUM\_NAME*** + **" FROM "** + ***TABLE\_ALBUMS*** +  **" INNER JOIN "** +***TABLE\_ARTISTS*** + **" ON "** + ***TABLE\_ALBUMS*** + **"."** + ***COLUMN\_ALBUM\_ARTIST*** +  **" = "** + ***TABLE\_ARTISTS*** + **"."** + ***COLUMN\_ARTIST\_ID*** +  **" WHERE "** + ***TABLE\_ARTISTS*** + **"."** + ***COLUMN\_ARTIST\_NAME*** + **" = \""**;   **public static final** String ***QUERY\_ALBUMS\_BY\_ARTIST\_SORT*** =  **" ORDER BY "** + ***TABLE\_ALBUMS*** + **"."** + ***COLUMN\_ALBUM\_NAME*** + **" COLLATE NOCASE "**;   **private static** Connection *conn*; *//make it static else you gonna get error* **public boolean** open() {  **try** {  *conn* = DriverManager.*getConnection*(***CONNECTION\_STRING***);  **return true**;  } **catch**(SQLException e) {  System.***out***.println(**"Couldn't connect to database: "** + e.getMessage());  **return false**;  }  }   **public void** close() {  **try** {  **if**(*conn* != **null**) {  *conn*.close();  }  } **catch**(SQLException e) {  System.***out***.println(**"Couldn't close connection: "** + e.getMessage());  }  }   **public static** List<Artists> queryArtists(**int** sortOrder) {   StringBuilder sb = **new** StringBuilder(**"SELECT \* FROM "**);  sb.append(***TABLE\_ARTISTS***);  **if**(sortOrder != ***ORDER\_BY\_NONE***) {  sb.append(**" ORDER BY "**);  sb.append(***COLUMN\_ARTIST\_NAME***);  sb.append(**" COLLATE NOCASE "**);  **if**(sortOrder == ***ORDER\_BY\_DESC***) {  sb.append(**"DESC"**);  } **else** {  sb.append(**"ASC"**);  }  }   **try**(Statement statement = *conn*.createStatement();  *//Error:(53, 35) java: non-static variable conn cannot be referenced from a static context* ResultSet results = statement.executeQuery(sb.toString())) {   List<Artists> artists = **new** ArrayList<>();  **while**(results.next()) {  Artists artist = **new** Artists();  artist.setId(results.getInt(***COLUMN\_ARTIST\_ID***));  artist.setName(results.getString(***COLUMN\_ARTIST\_NAME***));  artists.add(artist);  }   **return** artists;   } **catch**(SQLException e) {  System.***out***.println(**"Query failed: "** + e.getMessage());  **return null**;  }   }   **public** List<String> queryAlbumsForArtist(String artistName, **int** sortOrder) {   StringBuilder sb = **new** StringBuilder(***QUERY\_ALBUMS\_BY\_ARTIST\_START***);  sb.append(artistName);  sb.append(**"\""**);   **if**(sortOrder != ***ORDER\_BY\_NONE***) {  sb.append(***QUERY\_ALBUMS\_BY\_ARTIST\_SORT***);  **if**(sortOrder == ***ORDER\_BY\_DESC***) {  sb.append(**"DESC"**);  } **else** {  sb.append(**"ASC"**);  }  }   System.***out***.println(**"SQL statement = "** + sb.toString());   **try** (Statement statement = *conn*.createStatement();  ResultSet results = statement.executeQuery(sb.toString())) {   List<String> albums = **new** ArrayList<>();  **while**(results.next()) {  albums.add(results.getString(1));  }   **return** albums;   } **catch**(SQLException e) {  System.***out***.println(**"Query failed: "**+ e.getMessage());  **return null**;  }  } } |
| SQL statement = SELECT albums.name FROM albums INNER JOIN artists ON albums.artist = artists.\_id WHERE artists.name = "Iron Maiden" ORDER BY albums.name COLLATE NOCASE ASC  Powerslave  Seventh Son Of A Seventh Son  The Number of the Beast | |