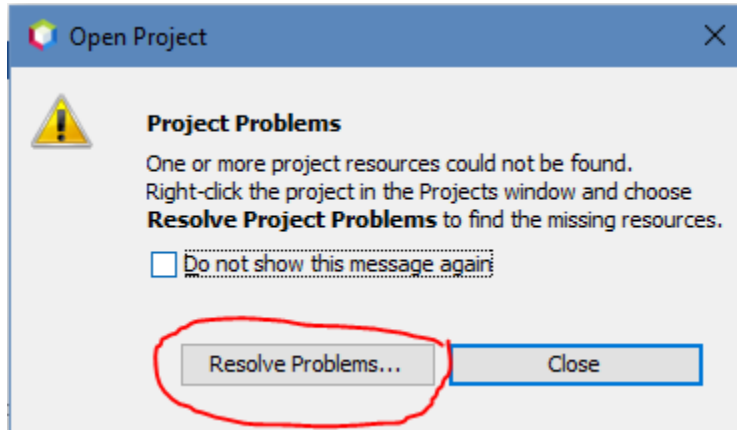**Code Startup:**

1. Open Netbeans IDE
2. Open lab5 project
3. If this window pops up, click the "Resolve Problems…" button, then locate where the "sqlite-jdbc-3.30.1.jar" file is. The problem should then be fixed.
4. Source code is located in ..\lab5\lab5\src

Interface Text:

```
Welcome to the LoL database!
Please select from one of the following options,
by entering a number from 0-10 (0 to exit application):
1. Find all players with KDAs greater than 4.
2. Find the position that has the highest CS per minute(CSM).
3. Count how many junglers have KPs over 50%.
4. Find the champion with the highest pick rate.
5. Find the champion with the highest ban rate.
6. Find all teams with over 2 average dragons per game(avgDPG).
7. Find the region with the shortest game duration.
8. Change the name of T1 to SKT T1.
9. Find the tournament with the highest prize pool.
10. Count how many tournaments were held in the KR region.
```

Query Number 1:

```
Query Number: 1
Faker|KDA: 5.1
Jensen|KDA: 6.1
Huanfeng|KDA: 6.8
```

Query Number 2:

```
Query Number: 2
Adc|Highest CSM: 10.0
```

Query Number 3:

```
Query Number: 3
Junglers with kp > 50: 2
```

Query Number 4:

```
Query Number: 4
Kaisa|Highest Pick Rate: 73.4
```

Query Number 5:

```
Query Number: 5
Lillia|Highest Ban Rate: 58.2
```

Query Number 6:

```
Query Number: 6
DRX|Average Dragons per Game: 2.08
SKT T1|Average Dragons per Game: 2.38
java.sql.SQLException: database in auto-commit mode
GenG|Average Dragons per Game: 2.39
Team Liquid|Average Dragons per Game: 2.55
Invictus|Average Dragons per Game: 2.62
Suning|Average Dragons per Game: 2.37
JD Gaming|Average Dragons per Game: 2.48
TSM|Average Dragons per Game: 2.58
Golden Guardians|Average Dragons per Game: 2.04
```

Query Number 7:

```
Query Number: 7
CN|Game Length: 29.32
```

Query Number 8:

```
Query Number: 8
T1 has been updated to SKT T1
INSERT INTO teams VALUES(2,'SKT T1','KR',56.799999999999997157,32.57000000000000
0283,2.3799999999999998934);
```

Query Number 9:

```
Query Number: 9
LPL Spring 2021|Highest Prize Pool: $650000.0 USD
```

Query Number 10:

```
Query Number: 10
1 tournament(s) was(were) held in the KR region
```

LoL Database dump:

```
BEGIN TRANSACTION;
CREATE TABLE players(
playerID INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
name VARCHAR(255) NOT NULL,
position VARCHAR(255),
kp DOUBLE,
avgKDA DOUBLE,
avgCSM DOUBLE);
INSERT INTO players VALUES(1,'Pyosik','Jungle',70.0,3.5,7.4000000000000003552);
INSERT INTO players VALUES(2,'Faker','Mid',68.900000000000005684,5.0999999999999
996447,8.1999999999999992894);
INSERT INTO players VALUES(3,'Rascal','Top',59.600000000000001422,3.0,8.80000000
00000007105);
INSERT INTO players VALUES(4,'Jensen','Mid',65.900000000000005682,6.099999999999
9996447,8.6999999999999992894);
INSERT INTO players VALUES(5,'TheShy','Top',47.5,2.3999999999999999111,7.9000000
000000003552);
INSERT INTO players VALUES(6,'Huanfeng','Adc',70.700000000000002842,6.7999999999
999998223,10.0);
INSERT INTO players VALUES(7,'LvMao','Support',68.000000000000000001,2.600000000
0000000888,1.1000000000000000888);
INSERT INTO players VALUES(8,'SwordArt','Support',63.000000000000000001,2.899999
9999999999111,1.1999999999999999555);
INSERT INTO players VALUES(9,'Revenge','Top',63.200000000000002842,2.60000000000
00000888,7.7000000000000001776);
INSERT INTO players VALUES(10,'Iconic','Jungle',58.799999999999997156,2.10000000
00000000888,6.7999999999999998223);
CREATE TABLE champions(
championID INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
name VARCHAR(255) NOT NULL,
pickrate DOUBLE,
banrate DOUBLE,
winrate DOUBLE);
INSERT INTO champions VALUES(1,'Kaisa',73.400000000000005682,18.1000000000000014
21,50.999999999999999999);
INSERT INTO champions VALUES(2,'Syndra',40.700000000000002842,23.199999999999999
29,50.999999999999999999);
INSERT INTO champions VALUES(3,'Alistar',39.0,29.899999999999998579,50.999999999
999999999);
INSERT INTO champions VALUES(4,'Rell',39.0,40.100000000000000142,50.9999999999999
99999);
INSERT INTO champions VALUES(5,'Orianna',20.899999999999998578,18.10000000000000
1421,50.999999999999999999);
INSERT INTO champions VALUES(6,'Gnar',37.899999999999998579,50.29999999999999715
6,50.999999999999999999);
INSERT INTO champions VALUES(7,'Nidalee',32.200000000000002843,20.30000000000000
071,50.999999999999999999);
INSERT INTO champions VALUES(8,'Samira',32.200000000000002843,23.699999999999999
289,50.999999999999999999);
INSERT INTO champions VALUES(9,'Olaf',31.100000000000001421,33.29999999999999715
8,50.999999999999999999);
INSERT INTO champions VALUES(10,'Lillia',29.899999999999998579,58.20000000000000
2842,50.999999999999999999);
CREATE TABLE designers(
designerID INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
name VARCHAR(255) NOT NULL);
INSERT INTO designers VALUES(1,'Steve Feak');
INSERT INTO designers VALUES(2,'Tom Cadwell');
INSERT INTO designers VALUES(3,'Mark Yetter');
INSERT INTO designers VALUES(4,'Christina Norman');
INSERT INTO designers VALUES(5,'David Capurro');
INSERT INTO designers VALUES(6,'Rob Garrett');
```

```
CREATE TABLE teams(
teamID INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
name VARCHAR(255) NOT NULL,
region VARCHAR(255) NOT NULL,
winrate DOUBLE,
avgGD DOUBLE,
avgDPG DOUBLE);
INSERT INTO teams VALUES(1,'DRX','KR',52.60000000000000142,33.420000000000001706
,2.080000000000000071);
INSERT INTO teams VALUES(2,'SKT T1','KR',56.799999999999997157,32.57000000000000
0283,2.3799999999999998934);
INSERT INTO teams VALUES(3,'GenG','KR',63.89999999999999858,32.20000000000000284
3,2.3900000000000001243);
INSERT INTO teams VALUES(4,'Team Liquid','NA',70.999999999999999999,30.089999999
999999858,2.5499999999999998223);
INSERT INTO teams VALUES(5,'Invictus','CN',51.700000000000002841,29.320000000000
000285,2.6200000000000001065);
INSERT INTO teams VALUES(6,'Suning','CN',55.600000000000001421,32.27000000000000
3126,2.3700000000000001065);
INSERT INTO teams VALUES(7,'JD Gaming','CN',66.700000000000002841,31.44000000000
0001278,2.4799999999999999822);
INSERT INTO teams VALUES(8,'TSM','NA',60.0,33.189999999999997726,2.5800000000000
00071);
INSERT INTO teams VALUES(9,'Golden Guardians','NA',16.699999999999999289,35.0399
99999999999146,2.0400000000000000355);
INSERT INTO teams VALUES(10,'Immortals','NA',34.799999999999997157,31.4600000000
00000852,1.4299999999999999378);
CREATE TABLE tournaments(
tournamentID INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
splitname VARCHAR(255) NOT NULL,
region VARCHAR(255),
prizepool DOUBLE,
numberofgames INTEGER);
INSERT INTO tournaments VALUES(1,'LEC Spring 2021','EUW',200000.0,90);
INSERT INTO tournaments VALUES(2,'LPL Spring 2021','CN',650000.0,249);
INSERT INTO tournaments VALUES(3,'VCS Spring 2021','VN',50000.0,94);
INSERT INTO tournaments VALUES(4,'LCK Spring 2021','KR',225000.0,177);
INSERT INTO tournaments VALUES(5,'TCL Spring 2021','TR',20000.0,80);
INSERT INTO tournaments VALUES(6,'LCS Spring 2021','NA',200000.0,80);
INSERT INTO tournaments VALUES(7,'LCL Spring 2021','CIS',68000.000000000000001,4
0);
INSERT INTO tournaments VALUES(8,'PCS Spring 2021','PCS',125000.0,72);
INSERT INTO tournaments VALUES(9,'LJL Spring 2021','JP',91999.999999999999998,57
);
INSERT INTO tournaments VALUES(10,'LFL Spring 2021','FR',20000.0,90);
CREATE TABLE players_play_champions (
player_id INTEGER,
champion_id INTEGER,
CONSTRAINT fk_player_id FOREIGN KEY (player_id) REFERENCES players(playerID)
CONSTRAINT fk_champion_id FOREIGN KEY (champion_id) REFERENCES champions(champio
nID));
INSERT INTO players_play_champions VALUES(1,10);
INSERT INTO players_play_champions VALUES(2,2);
INSERT INTO players_play_champions VALUES(3,6);
INSERT INTO players_play_champions VALUES(4,5);
INSERT INTO players_play_champions VALUES(5,9);
INSERT INTO players_play_champions VALUES(6,1);
INSERT INTO players_play_champions VALUES(6,8);
INSERT INTO players_play_champions VALUES(7,4);
INSERT INTO players_play_champions VALUES(8,3);
INSERT INTO players_play_champions VALUES(8,4);
INSERT INTO players_play_champions VALUES(9,6);
INSERT INTO players_play_champions VALUES(10,7);
```

```
CREATE TABLE designers_design_champions (
designer_id INTEGER,
champion_id INTEGER,
CONSTRAINT fk_designer_id FOREIGN KEY (designer_id) REFERENCES designers(designe
rID)
CONSTRAINT fk_champion_id FOREIGN KEY (champion_id) REFERENCES champions(champio
nID));
INSERT INTO designers_design_champions VALUES(1,9);
INSERT INTO designers_design_champions VALUES(1,3);
INSERT INTO designers_design_champions VALUES(2,3);
INSERT INTO designers_design_champions VALUES(2,6);
INSERT INTO designers_design_champions VALUES(3,4);
INSERT INTO designers_design_champions VALUES(3,5);
INSERT INTO designers_design_champions VALUES(4,1);
INSERT INTO designers_design_champions VALUES(4,2);
INSERT INTO designers_design_champions VALUES(5,10);
INSERT INTO designers_design_champions VALUES(6,7);
INSERT INTO designers_design_champions VALUES(6,8);
CREATE TABLE teams_have_players (
team_id INTEGER,
player_id INTEGER,
CONSTRAINT fk_team_id FOREIGN KEY (team_id) REFERENCES teams(teamID),
CONSTRAINT fk_player_id FOREIGN KEY (player_id) REFERENCES players(playerID));
INSERT INTO teams_have_players VALUES(1,1);
INSERT INTO teams_have_players VALUES(2,2);
INSERT INTO teams_have_players VALUES(3,3);
INSERT INTO teams_have_players VALUES(4,4);
INSERT INTO teams_have_players VALUES(5,5);
INSERT INTO teams_have_players VALUES(6,6);
INSERT INTO teams_have_players VALUES(7,7);
INSERT INTO teams_have_players VALUES(8,8);
INSERT INTO teams_have_players VALUES(9,9);
INSERT INTO teams_have_players VALUES(10,10);
CREATE TABLE tournaments_have_teams (
tournament_id INTEGER,
team_id INTEGER,
CONSTRAINT fk_tournament_id FOREIGN KEY (tournament_id) REFERENCES tournaments(t
ournamentID),
CONSTRAINT fk_team_id FOREIGN KEY (team_id) REFERENCES teams(teamID));
INSERT INTO tournaments_have_teams VALUES(2,5);
INSERT INTO tournaments_have_teams VALUES(2,6);
INSERT INTO tournaments_have_teams VALUES(2,7);
INSERT INTO tournaments_have_teams VALUES(4,1);
INSERT INTO tournaments_have_teams VALUES(4,2);
INSERT INTO tournaments_have_teams VALUES(4,3);
INSERT INTO tournaments_have_teams VALUES(6,4);
INSERT INTO tournaments_have_teams VALUES(6,8);
INSERT INTO tournaments_have_teams VALUES(6,9);
INSERT INTO tournaments_have_teams VALUES(6,10);
DELETE FROM sqlite_sequence;
INSERT INTO sqlite_sequence VALUES('players',10);
INSERT INTO sqlite_sequence VALUES('champions',10);
INSERT INTO sqlite_sequence VALUES('designers',6);
INSERT INTO sqlite_sequence VALUES('teams',10);
INSERT INTO sqlite_sequence VALUES('tournaments',10);
COMMIT;
```

Changes Made from Previous Labs:

1. Removed Matches entity
2. Added many-to-many relationship connections in their respective relationship tables
3. Changed table names to be more uniform (plural instead of some singular)
4. Updated query list to match new tables