1. Find all of the Triple Crown (Award) winners ever in Major League Baseball, with their complete batting stats for the given year. Order the results in descending order first by batting average, then by RBIs, and lastly by home runs.

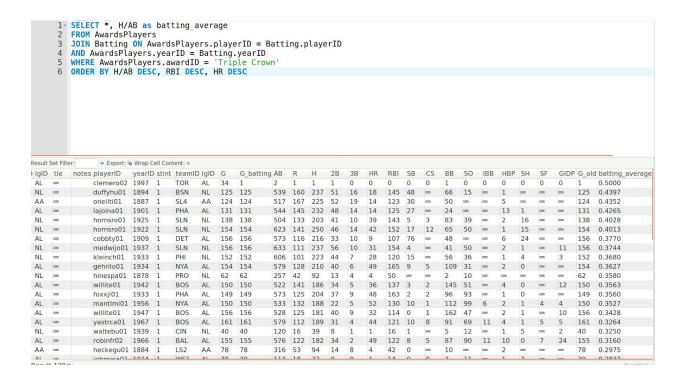
SELECT *, H/AB as batting_average
FROM AwardsPlayers

JOIN Batting ON AwardsPlayers.playerID = Batting.playerID

AND AwardsPlayers.yearID = Batting.yearID

WHERE AwardsPlayers.awardID = 'Triple Crown'

ORDER BY H/AB DESC, RBI DESC, HR DESC



2. Calculate the number of MVPs and Triple Crown winners by position ever in major league baseball.

SELECT Fielding.Pos as Position , COUNT(*) as numAwards FROM AwardsPlayers

JOIN Fielding

ON AwardsPlayers.playerID = Fielding.playerID

AND AwardsPlayers.yearID = Fielding.yearID

WHERE AwardsPlayers.AwardID = 'Triple Crown' OR AwardsPlayers.AwardID = 'MVP' GROUP BY Fielding.Pos

Position	numAwards
1B	52
2B	22
3B	24
С	18
CF	27
DH	33
LF	28
OF	86
Р	59
RF	29
SS	26

If a player won multiple awards over multiple years, this counts the win again for that position.

```
JOIN Fielding

ON AwardsPlayers.playerID = Fielding.playerID

AND AwardsPlayers.yearID = Fielding.yearID

WHERE AwardsPlayers.AwardID = 'Triple Crown'

OR AwardsPlayers.AwardID = 'MVP'
         9 GROUP BY Fielding.Pos
Result Set Filter:
                      🖚 Export: 🖷 Wrap Cell Content: 🗉
# Position numAwards
1 1B
             52
2 2B
3 3B
             22
             24
4 C
5 CF
            18
             27
6 DH
             33
7 LF
             28
8 OF
             86
9 P
             59
10 RF
             29
11 SS
             26
```

3. Calculate the number of MVPs and Triple Crown winners by team ever in major league baseball.

SELECT teamID, COUNT(*) as numAwards

FROM AwardsPlayers

JOIN Fielding

ON AwardsPlayers.playerID = Fielding.playerID

AND AwardsPlayers.yearID = Fielding.yearID

WHERE AwardsPlayers.AwardID = 'Triple Crown'

OR AwardsPlayers.AwardID = 'MVP'

GROUP BY Fielding.TeamID

teamID	numAwards
ANA	3
ARI	1
ATL	11
BAL	12
BOS	28
BRO	9
BSN	9
CAL	5
CHA	7
CHN	16
CIN	29
CLE	7
COL	5
DET	11
HOU	3
KCA	2

LAN	9
LS2	2
MIN	11
ML1	3
ML4	6
NY1	10
NYA	45
NYN	1
OAK	15
PHA	15
PHI	12
PIT	14
PRO	7
PRO SDN	
	7
SDN	7
SDN SEA	7 2 7
SDN SEA SFN	7 2 7 24
SDN SEA SFN SL4	7 2 7 24 1
SDN SEA SFN SL4 SLA	7 2 7 24 1
SDN SEA SFN SL4 SLA SLN	7 2 7 24 1 1 30

4. Calculate the average batting average, RBIs, and home runs by position ever in major league baseball. Only consider seasons where a player had at least 300 at-bats (AB).

SELECT Fielding.Pos, AVG(H/AB), AVG(RBI),
AVG(HR)

FROM Batting

JOIN Fielding

ON Batting.playerID = Fielding.playerID

AND Batting.yearID = Fielding.yearID

WHERE Batting.AB > 300

GROUP	BY	Fielding.Pos
		•

Pos	AVG(H/AB)	AVG(RBI)	AVG(HR)
1B	0.27963278	67.3269	12.6591
2B	0.26935185	50.1591	5.9463
3B	0.27039775	57.049	8.9848
С	0.26825673	53.8253	8.8696
CF	0.27335158	57.8432	13.1417
DH	0.27632093	68.5713	16.7933
LF	0.27416908	60.7898	14.448
OF	0.2803477	61.2095	11.1194
Р	0.27723888	55.0918	4.9859
RF	0.27419109	63.1295	15.163
SS	0.26516182	50.9998	6.0784

```
1. SELECT Fielding. Pos,
      2
             AVG(H/AB),
      3
             AVG(RBI),
      4
             AVG(HR)
      5
        FROM Batting
         JOIN Fielding
         ON Batting.playerID = Fielding.playerID
        AND Batting.yearID = Fielding.yearID
      9 WHERE Batting.AB > 300
     10 GROUP BY Fielding.Pos
Result Set Filter:
                🖚 Export: 🖫 Wrap Cell Content: 🗉
# Pos AVG(H/AB) AVG(RBI) AVG(HR)
1 1B
       0.27963278 67.3269 12.6591
2 2B
       0.26935185 50.1591 5.9463
3 3B
      0.27039775 57.0490 8.9848
4 C
       0.26825673 53.8253 8.8696
5 CF
      0.27335158 57.8432 13.1417
6 DH 0.27632093 68.5713 16.7933
7 LF
      0.27416908 60.7898 14.4480
8 OF 0.28034770 61.2095 11.1194
9 P
       0.27723888 55.0918 4.9859
10 RF 0.27419109 63.1295 15.1630
11 SS
     0.26516182 50.9998 6.0784
```

5. Return all player info for all players that won an MVP and a Gold Glove during their careers, along with the number of times they won each.

```
SELECT * FROM

Master

JOIN

(SELECT playerID,

SUM(awardID = 'MVP') as numMVP,

SUM(awardID = 'Gold Glove') as numGoldGlove

FROM AwardsPlayers

WHERE AwardsPlayers.awardID = 'MVP'

OR AwardsPlayers.awardID = 'Gold Glove'

GROUP by AwardsPlayers.playerID) as mytable

ON mytable.playerID = Master.playerID

WHERE (mytable.numMVP > 0 AND mytable.numGoldGlove > 0)

ORDER BY numMVP DESC, numGoldGlove DESC
```

```
1 · SELECT * FROM
                        JOIN
                        GSELECT playerID,
    SUM(awardID = 'MVP') as numMVP,
    SUM(awardID = 'Gold Glove') as numGoldGlove
                        FROM AwardsPlayers
                        WHERE AwardsPlayers.awardID = 'MVP
                        OR AwardsPlayers.awardID = 'Gold Glove
              10 GROUP by AwardsPlayers.playerID) as mytable
             11 ON mytable.playerID = Master.playerID
12 WHERE (mytable.numMVP > 0 AND mytable.numGoldGlove > 0)
             13 ORDER BY numMVP DESC, numGoldGlove DESC
                                                  nameGiven
                                                                                                         nameNick weight height bats throws debut
                                                                                                                                                                                                                                   finalGame collectahm lahm retro holtz bbref playerID
                                                    Barry Lamar
                                                                                                                                               228
                                                                                                                                                              73.0 L
                                                                                                                                                                                                          1986-05-30 2007-09-26 Arizor bonds b
                                                   Michael Jack
                                                                                                                                         203 74.0 R R
                                                                                                                                                                                                        1972-09-12 1989-05-28 Ohio schm schm schm schm schm schm schmimi01 3
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                                                                                                               Prince Albert,F210
                                                                                                                                                                                                          2001-04-02 ==
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                                                    Jose Alberto
                                                                                                                                                              75.0 R
                                                                                                               Willie Howard (Jr.)
                                                    Johnny Lee
                                                                                                               Little General 208
                                                                                                                                                              73.0 R
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                                                   Dale Bryan
                                                                                                               = 160 67.0 L R 1963-09-21 1984-09-30 
Iron Man 225 76.0 R R 1981-08-10 2001-10-06
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                                                   Calvin Edwin (Ir.)
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orn Roger Eugene Maras Roger Eugene
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                                                                                                                                                              72.0 L
                                                                                                               Mr. Cub 180 73.0 R R
                                                                                                                                                                                                        1953-09-17 1971-09-26
                                                                                                                                                                                                                                                                        banksbanksbanksbanksbankser01 2
                                                   Brooks Calbert (Jr.)
                                                                                                                Vacuum Clean 190
                                                                                                                                                              73.0 R
                                                                                                                                                                                                          1955-09-17 1977-08-13
                                                                                                                                                                                                                                                                        robin/robin/robin/robin/robin/robinbr01
                                                                                                               Pudge,I-Rod 205 69.0 R R
                                                                                                                                                                                                          1991-06-20 ==
                                                   Ivan (Torres)
                                                                                                                                                                                                                                                                        rodrii rodrii rodrii rodrii rodriiv01
                                                                                                                                                                                                                                                                                                                                                                                     13
                                                    Roberto (Walker)
                                                                                                                Arriba, Bob
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                                                                                                                                                              71.0 R
                                                                                                                                                                                                          1955-04-17 1972-10-03
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                                                                                                               Mex
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                                                    George Kenneth (Jr.)
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                                                   Donald Arthur
                                                                                                               Donnie Basebi 175 72.0 L L
                                                                                                                                                                                                          1982-09-08 1995-10-01
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Ryno 180 74.0
orn Pack Robert Gibson
                                                  Robert
                                                                                                                                                                                                          1959-04-15 1975-09-03
                                                                                                                                                                                                                                                                         gibso gibso gibso gibso gibsobo01
                                                                                                                                                                                                          1981-09-02 1997-09-28
                                                                                                                                                                                                                                                                         sandksandksandksandksandbry01 1
```

6. Calculate the number of world series, division titles, and league championships for all teams.

```
SELECT teamID,

SUM(WSWin = 'Y') as num_world_series_wins,

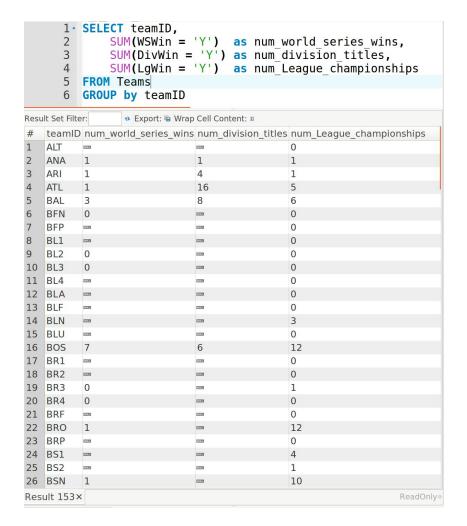
SUM(DivWin = 'Y') as num_division_titles,

SUM(LgWin = 'Y') as num_League_championships

FROM Teams

GROUP by teamID
```

teamID	num_world_series_wins	num_division_titles	num_League_championships
ALT	NULL	NULL	0
ANA	1	1	1
ARI	1	4	1
ATL	1	16	5
BAL	3	8	6
et cetera			



And if we put the winners on top it looks like this:

```
SELECT teamID,

SUM(WSWin = 'Y') as num_world_series_wins,

SUM(DivWin = 'Y') as num_division_titles,

SUM(LgWin = 'Y') as num_League_championships

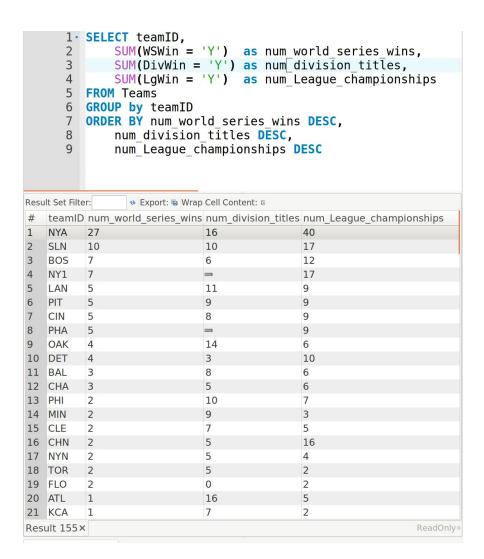
FROM Teams

GROUP by teamID

ORDER BY num_world_series_wins DESC,

num_division_titles DESC,

num_League_championships DESC
```



7. Calculate the average salary (as a percentage of yearly average) of all MVPs ever in major league baseball.

```
SELECT

AVG(Salaries.salary)

FROM AwardsPlayers

JOIN Salaries

ON AwardsPlayers.playerID = Salaries.playerID

AND AwardsPlayers.yearID = Salaries.yearID

WHERE AwardsPlayers.AwardID = 'MVP'

GROUP BY NULL
```

Answer, average MVP salary: '6326253.280000' (That is, \$6,326,253)

```
1. SELECT
2 AVG(Salaries.salary)
3 FROM AwardsPlayers
4 JOIN Salaries
5 ON AwardsPlayers.playerID = Salaries.playerID
6 AND AwardsPlayers.yearID = Salaries.yearID
7 WHERE AwardsPlayers.AwardID = 'MVP'
8 GROUP BY NULL

Result Set Filter: Wexport: Wexport:
```

Other interpretation:

For each MVP, the percent their salary is compared to the average player that year.

```
SELECT*,
 100 * salary/average_player_salary
FROM
(SELECT AwardsPlayers.playerID,
 AwardsPlayers.AwardID,
      Salaries.yearID,
      Salaries.salary
FROM AwardsPlayers
JOIN Salaries
ON AwardsPlayers.playerID = Salaries.playerID
AND AwardsPlayers.yearID = Salaries.yearID
WHERE AwardsPlayers. AwardID = 'MVP') as MVPsalary
JOIN
(SELECT yearID, AVG(salary) as average_player_salary
FROM
Salaries
GROUP BY yearID) as avg_salary
ON avg_salary.yearID = MVPsalary.yearID
```

playerID, AwardID, yearID, salary, yearID, average_player_salary, 100 * salary/average_player_salary

mattido01, MVP, 1985, 455000.00, 1985, 476299.447273, 95.5281394101 mcgeewi01, MVP, 1985, 475000.00, 1985, 476299.447273, 99.7271785050 clemero02, MVP, 1986, 340000.00, 1986, 417147.043360, 81.5060313651 schmimi01, MVP, 1986, 2136666.00, 1986, 417147.043360, 512.2093118023 bellge02, MVP, 1987, 1175000.00, 1987, 434729.465710, 270.2830363895 dawsoan01, MVP, 1987, 700000.00, 1987, 434729.465710, 161.0196812533 cansejo01, MVP, 1988, 325000.00, 1988, 453171.076923, 71.7168452600 gibsoki01, MVP, 1988, 1833333.00, 1988, 453171.076923, 404.5564894494

```
1 · SELECT *.
     2
             100 * salary/average player salary
     3
     4 ₽(SELECT AwardsPlayers.playerID,
     5
             AwardsPlayers.AwardID,
     6
             Salaries.yearID,
     7
            Salaries.salary
     8 FROM AwardsPlayers
     9 JOIN Salaries
    10 ON AwardsPlayers.playerID = Salaries.playerID
        AND AwardsPlayers.yearID = Salaries.yearID
    11
    12 WHERE AwardsPlayers.AwardID = 'MVP') as MVPsalary
    13 JOIN
    14 (SELECT yearID, AVG(salary) as average player salary
    15 FROM
    16 | Salaries
    17 GROUP BY yearID) as avg salary
    18 ON avg salary.yearID = MVPsalary.yearID
Result Set Filter:
               Name  

Export: Wrap Cell Content: E
# playerID AwardID yearID salary
                                 yearID average player salary 100 * salary/average player salary
1 howarry01 MVP 2006 355000.00 2006 2828623.163216 12.5502755056
2 morneju01 MVP 2006 385000.00 2006 2828623.163216 13.6108621681
3 pedrodu01 MVP 2008 457000.00 2008 3136517.137850
                                                       14.5703013857
4 cansejo01 MVP 1988 325000.00 1988 453171.076923
                                                     71.7168452600
5 clemero02 MVP 1986 340000.00 1986 417147.043360
                                                       81.5060313651
6 mattido01 MVP 1985 455000.00 1985 476299.447273
                                                      95.5281394101
7 mcgeewi01 MVP 1985 475000.00 1985 476299.447273
                                                        99.7271785050
8 thomafr04 MVP 1993 1115000.00 1993 976966.559047
                                                       114.1287784802
9 mitchke01 MVP 1989 610000.00 1989 506323.081575
                                                       120.4764353429
10 tejadmi01 MVP 2002 3625000.00 2002 2392526.621749
                                                       151.5134655994
11 giambia01 MVP 2000 3103333.00 2000 1992984.571770
                                                       155.7128461483
```

8. Use the statistics available at <u>Baseball-Reference</u> to add Miguel Cabrera's 2012 Triple Crown season to your Database. Make sure to add the appropriate information to all relevant tables.

Update the Batting table:

INSERT INTO Batting

(playerID,yearID,teamID,IgID,G,AB,R,H,2B,3B,HR,RBI,SB,CS,BB,SO,GIDP,HBP,SH,SF,IBB)

VALUES

('cabremi01','2012','DET','AL','161','622','109','205','40','0','44','139','4','1','66','98','28','3','0','6','17')

```
1. INSERT INTO Batting
2. (playerID, yearID, teamID, lgID, G, AB, R, H, 2B, 3B, HR, RBI, SB, CS, BB, SO, GIDP, HBP, SH, SF, IBB)
3. VALUES
4. ('cabremi01', '2012', 'DET', 'AL', '161', '622', '109', '205', '40', '0', '44', '139', '4', '1', '66', '98', '28', '3', '0', '6', '17')

Action Output

Time Action Message

0. VALUES Output Section Message
7114:44 INSERT INT(1 row(s) affected O.001 sec
```

Check that it updated the data:

Select * from Batting

where playerID = 'cabremi01'

			yerID																						
Result Set Filte	re	« Edi	t: 🚄 🖦 🖦 I	Export/	Import	: 🐞 🐞 Wrap Ce	II Con	tent: ¤																	
# playerID	yearID	stint	teamID	IgID	G	G_batting A	AΒ	R	Н	2B	3B	HR	RBI	SB	CS	BB	SO	IBB	HBP	SH	SF	GIDP	G_old		
1 cabremi0	1 2003	1	FLO	NL	87	87	314	39	84	21	3	12	62	0	2	25	84	3	2	4	1	12	87		
cabremi0	1 2004	1	FLO	NL	160	160 6	503	101	177	31	1	33	112	5	2	68	148	5	6	0	8	20	160		
3 cabremi0	1 2005	1	FLO	NL	158	158	513	106	198	43	2	33	116	1	0	64	125	12	2	0	6	20	158		
1 cabremi0	1 2006	1	FLO	NL	158	158 5	576	112	195	50	2	26	114	9	6	86	108	27	10	0	4	18	158		
cabremi0	1 2007	1	FLO	NL	157	157 5	88	91	188	38	2	34	119	2	1	79	127	23	5	1	7	17	157		
cabremi0	2008	1	DET	AL	160	160	516	85	180	36	2	37	127	1	0	56	126	6	3	0	9	16	160		
cabremi0	1 2009	1	DET	AL	160	160 6	511	96	198	34	0	34	103	6	2	68	107	14	5	0	1	22	CCCC		
cabremi0	1 2012	0	DET	AL	161	E339 6	522	109	205	40	0	44	139	4	1	66	98	17	3	0	6	28	000		
K COS	0000	0000	COST	COOR	CON	CCS C	200	con	0000	0338	C2238	COUR	COS	COOR	COOM	SIZE	COSS	COS	CITH	CORR	COS	C235	000		
Batting 50×																									Арі
Action Outpu	ıt :																								
Time A			ssage	cercu																				Duration / Fetch	
72 14:45 5																								0.000 sec / 0.000	SPC

What about the NULL lines?

"Removed two deprecated fields from the batting table. The G_batting and G_old fields were rendered obsolete when we created the appearances table.

They've been removed from the batting table starting with this version"

source: http://seanlahman.com/files/database/readme2014.txt

Updating Salaries table:

INSERT INTO Salaries

(playerID,yearID,teamID,IgID, salary)

VALUES

('cabremi01','2012','DET','AL','21000000')

```
1. INSERT INTO Salaries
2 (playerID, yearID, teamID, lgID, salary)
3 VALUES
4 ('cabremi01', '2012', 'DET', 'AL', '21000000')

Action Output

Time Action Message
74 14:55 INSERT INT(1 row(s) affected
```

Then check that the Salaries table updated properly:



Fielding table:

I'm not sure whether

InnOuts Time played in the field expressed as outs

is the same as

Inn Innings played in field.

so I'm not including it.

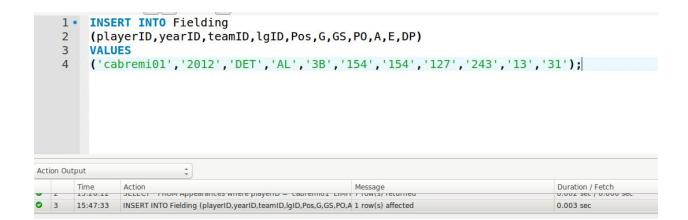
Insert data, one row at a time:

INSERT INTO Fielding

(playerID,yearID,teamID,IgID,Pos,G,GS,PO,A,E,DP)

VALUES

('cabremi01','2012','DET','AL','3B','154','154','127','243','13','31');

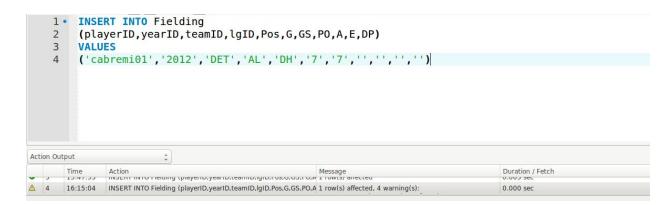


INSERT INTO Fielding

(playerID, yearID, teamID, IgID, Pos, G, GS, PO, A, E, DP)

VALUES

('cabremi01','2012','DET','AL','DH','7','7',",",")

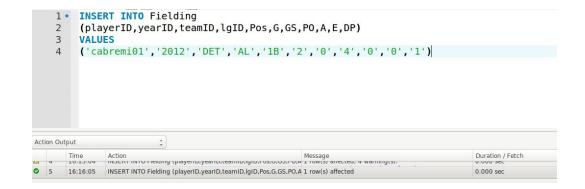


INSERT INTO Fielding

(playerID,yearID,teamID,IgID,Pos,G,GS,PO,A,E,DP)

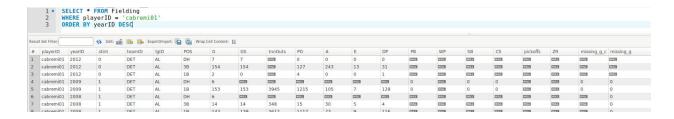
VALUES

('cabremi01','2012','DET','AL','1B','2','0','4','0','0','1')



Make sure that the new data made it into the table:

SELECT * FROM Fielding WHERE playerID = 'cabremi01' ORDER BY yearID DESC

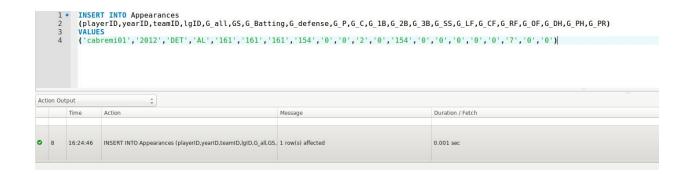


Adding data to Appearances table:

INSERT INTO Appearances

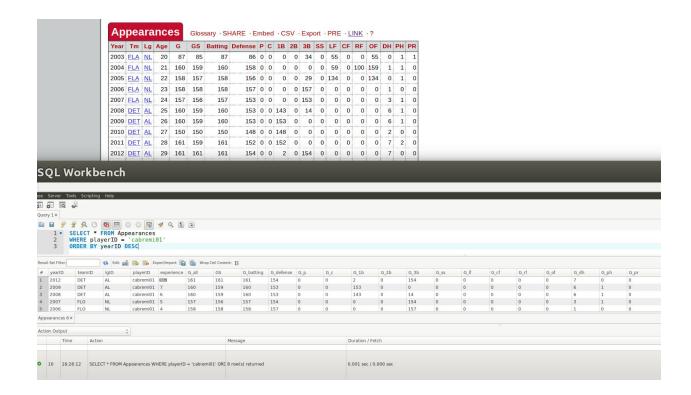
(playerID,yearID,teamID,lgID,G_all,GS,G_Batting,G_defense,G_P,G_C,G_1B,G_2B,G_3B,G_SS,G_LF,G_CF,G_RF,G_OF,G_DH,G_PH,G_PR)

VALUES



Ensure that the data made it into the table:

SELECT * FROM Appearances WHERE playerID = 'cabremi01' ORDER BY yearID DESC



In the above screenshot I'm comparing the data on http://www.baseball-reference.com/players/c/cabremi01-field.shtml to the datarow I added to my Appearances table.

AwardsPlayers: Add All-Star, Silver Slugger, and MVP for 2012

INSERT INTO AwardsPlayers (playerID, awardID, yearID, IgID) VALUES ('cabremi01', 'All-Star', '2012', 'AL')



INSERT INTO AwardsPlayers (playerID, awardID, yearID, IgID) VALUES ('cabremi01', 'MVP', '2012', 'AL')



INSERT INTO AwardsPlayers (playerID, awardID, yearID, IgID) VALUES ('cabremi01', 'Silver Slugger', '2012', 'AL')



SELECT * FROM AwardsPlayers WHERE playerID = 'cabremi01'

