

Database HW2

1. SELECT COUNT(playerID) FROM MASTER;

```
+-----+  
| COUNT(playerID) |  
+-----+  
|           19105 |  
+-----+  
1 row in set (0.01 sec)
```

2. SELECT COUNT(DISTINCT birthCountry) FROM MASTER;

```
+-----+  
| COUNT(DISTINCT birthCountry) |  
+-----+  
|                        54 |  
+-----+  
1 row in set (0.01 sec)
```

3. SELECT playerID, yearID FROM Batting WHERE HR >= 50 AND HR <= 60;

```
+-----+-----+
| playerID | yearID |
+-----+-----+
| ruthba01 | 1920 |
| ruthba01 | 1921 |
| ruthba01 | 1927 |
| ruthba01 | 1928 |
| wilsoha01 | 1930 |
| foxxji01 | 1932 |
| foxxji01 | 1938 |
| greenha01 | 1938 |
| kinerra01 | 1947 |
| mizejo01 | 1947 |
| kinerra01 | 1949 |
| mayswi01 | 1955 |
| mantlmi01 | 1956 |
| mantlmi01 | 1961 |
| mayswi01 | 1965 |
| fostege01 | 1977 |
| fieldce01 | 1990 |
| belleal01 | 1995 |
| anderbr01 | 1996 |
| mcgwima01 | 1996 |
| griffke02 | 1997 |
| griffke02 | 1998 |
| voughgr01 | 1998 |
| sosasa01 | 2000 |
| gonzalu01 | 2001 |
| rodrial01 | 2001 |
| rodrial01 | 2002 |
| thomeji01 | 2002 |
| jonesan01 | 2005 |
| howarry01 | 2006 |
| ortizda01 | 2006 |
| fieldpr01 | 2007 |
| rodrial01 | 2007 |
| bautijo02 | 2010 |
| davisch02 | 2013 |
+-----+-----+
35 rows in set (0.05 sec)
```

4. SELECT `park.name` FROM Parks WHERE `park.name` LIKE '%Stadium%';

```
+-----+
| park.name                               |
+-----+
| Angel Stadium of Anaheim                |
| Arlington Stadium                      |
| Atlanta-Fulton County Stadium          |
| Memorial Stadium                       |
| Cleveland Stadium                      |
| Mile High Stadium                      |
| Tiger Stadium                          |
| Aloha Stadium                          |
| Colt Stadium                           |
| Roosevelt Stadium                      |
| Municipal Stadium                      |
| Kauffman Stadium                       |
| Dodger Stadium                         |
| Sun Life Stadium                       |
| County Stadium                         |
| Metropolitan Stadium                   |
| Yankee Stadium I                       |
| Shea Stadium                           |
| Yankee Stadium II                      |
| Veterans Stadium                       |
| Three Rivers Stadium                  |
| Qualcomm Stadium                      |
| Sick's Stadium                         |
| Seals Stadium                          |
| Busch Stadium II                       |
| Busch Stadium III                      |
| Exhibition Stadium                     |
| Griffith Stadium                       |
| Robert F. Kennedy Stadium              |
+-----+
29 rows in set (0.00 sec)
```

5. SELECT AVG(finalGame-debut) FROM MASTER WHERE finalGame != '';

```
+-----+
| AVG(finalGame-debut) |
+-----+
| 4.716393442622951 |
+-----+
1 row in set, 37820 warnings (0.02 sec)
```

6. SELECT DISTINCT S.name_full FROM Schools S, CollegePlaying C, MASTER M WHERE M.debut LIKE '2000-05-__' AND M.playerID = C.playerid AND C.schoolID = S.schoolID;

```
+-----+
| name_full |
+-----+
| Texas A&M University |
| University of Virginia |
| University of Miami |
| Lake Land College |
| University of Arkansas |
| University of Southern California |
| Seton Hall University |
| Chabot College |
| Texas Tech University |
| Modesto Junior College |
| Massasoit Community College |
| Montgomery College, Rockville Campus |
| University of Florida |
| Indian River Community College |
| Florida International University |
| Moorpark College |
| California State University Fullerton |
| University of California, Riverside |
| West Valley College |
| Clemson University |
| University of Georgia |
+-----+
21 rows in set (1.43 sec)
```

7. SELECT yearID, AVG(salary), MAX(salary) FROM Salaries GROUP BY yearID;

yearID	AVG(salary)	MAX(salary)
1985	476299.4473	2130300
1986	417147.0434	2800000
1987	434729.4657	2127333
1988	453171.0769	2340000
1989	506323.0816	2766667
1990	511973.6943	3200000
1991	894961.1942	3800000
1992	1047520.5761	6100000
1993	976966.5590	6200000
1994	1049588.5600	6300000
1995	964979.0740	9237500
1996	1027909.2911	9237500
1997	1218687.4432	10000000
1998	1280844.5601	14936667
1999	1485316.8489	11949794
2000	1992984.5718	15714286
2001	2279841.0616	22000000
2002	2392526.6217	22000000
2003	2573472.9480	22000000
2004	2491776.1047	22500000
2005	2633830.8039	26000000
2006	2834520.8999	21680727
2007	2941435.8515	23428571
2008	3136517.1379	28000000
2009	3277646.9791	33000000
2010	3278746.8253	33000000
2011	3318838.2491	32000000
2012	3458421.2170	30000000
2013	3723344.3534	29000000
2014	3980445.9140	26000000
2015	4301276.0942	32571000
2016	4396409.6038	33000000

32 rows in set (0.02 sec)

8. SELECT S.yearID, S.playerID FROM (SELECT MAX(S2.salary) AS maxsalary,
S2.yearID FROM Salaries S2 GROUP BY S2.yearID) AS S3, Salaries S WHERE
S.yearID = S3.yearID AND S.salary = S3.maxsalary;

```
+-----+-----+
| yearID | playerID |
+-----+-----+
| 1985 | schmimi01 |
| 1986 | fostege01 |
| 1987 | schmimi01 |
| 1988 | smithoz01 |
| 1989 | hershor01 |
| 1990 | yountro01 |
| 1991 | strawda01 |
| 1992 | bonilbo01 |
| 1993 | bonilbo01 |
| 1994 | bonilbo01 |
| 1995 | fieldce01 |
| 1996 | fieldce01 |
| 1997 | belleal01 |
| 1998 | sheffga01 |
| 1999 | belleal01 |
| 2000 | brownke01 |
| 2001 | rodrial01 |
| 2002 | rodrial01 |
| 2003 | rodrial01 |
| 2004 | ramirma02 |
| 2005 | rodrial01 |
| 2006 | rodrial01 |
| 2007 | giambja01 |
| 2008 | rodrial01 |
| 2009 | rodrial01 |
| 2010 | rodrial01 |
| 2011 | rodrial01 |
| 2012 | rodrial01 |
| 2013 | rodrial01 |
| 2014 | greinza01 |
| 2015 | kershcl01 |
| 2016 | kershcl01 |
+-----+-----+
32 rows in set (0.03 sec)
```

```

9. SELECT A.yearID, A.playerID, A.maxsalary, B.BOSplayerID, B.BOSmaxsalary
FROM    (SELECT S4.yearID, S4.playerID, S3.maxsalary FROM    (SELECT
S.yearID, MAX(S.salary) AS maxsalary FROM (SELECT T.yearID,T.teamID FROM
Teams T WHERE T.WSWin = 'Y' AND T.yearID >= 1920 AND T.yearID <= 2004) AS
WorldWin, Salaries S WHERE S.teamID = WorldWin.teamID AND S.yearID =
WorldWin.yearID GROUP BY WorldWin.yearID) AS S3,  Salaries S4,  (SELECT
T.yearID,T.teamID FROM Teams T WHERE T.WSWin = 'Y' AND T.yearID >= 1920
AND T.yearID <= 2004) AS Wteam  WHERE S4.yearID = S3.yearID AND
S4.salary = S3.maxsalary AND S4.teamID = Wteam.teamID AND S3.yearID =
Wteam.yearID) AS A,    (SELECT S.yearID, S.playerID AS BOSplayerID,
S3.maxsalary AS BOSmaxsalary FROM (SELECT MAX(S2.salary) AS maxsalary,
S2.yearID FROM Salaries S2 WHERE S2.teamID = 'BOS' GROUP BY S2.yearID) AS
S3, Salaries S WHERE S.yearID = S3.yearID AND S.salary = S3.maxsalary AND
S.teamID = 'BOS') AS B WHERE A.yearID = B.yearID;

```

yearID	playerID	maxsalary	BOSplayerID	BOSmaxsalary
1985	brettge01	1000000	stanlbo01	1075000
1986	fostege01	2800000	riceji01	1984423
1987	hrbekke01	1310000	riceji01	2110000
1988	valenfe01	2050000	riceji01	2214865
1989	cansejo01	1600000	riceji01	2354748
1990	brownto05	2125000	clemero02	2600000
1991	morrija02	3700000	darwida01	3250000
1992	morrija02	4450000	violafr01	4833333
1993	cartejo01	5550000	dawsoan01	4875000
1995	maddugr01	6500000	cansejo01	5800000
1996	sierrru01	6200000	clemero02	5500000
1997	fernaal01	7000000	vaughmo01	6350000
1998	willibe02	8300000	martipe02	7575000
1999	willibe02	9857143	martipe02	11100000
2000	willibe02	12357143	martipe02	11500000
2001	johnsra05	13350000	ramirma02	13050000
2002	salmoti01	9650000	ramirma02	15462727
2003	rodriiv01	10000000	ramirma02	20000000
2004	ramirma02	22500000	ramirma02	22500000

19 rows in set (0.24 sec)

10.

先查鈴木一朗的 playerID :

```
SELECT playerID FROM MASTER WHERE nameFirst = 'Ichiro';
```

由於鈴木一朗強項在於打擊，把好的球員定義為打擊數多，且薪水高
先看每年一壘安打與其他球員平均的比較：

```
SELECT A.yearID, A.H, B.AVGH FROM (SELECT yearID, H FROM Batting WHERE  
playerID = 'suzukic01') AS A,  
(SELECT yearID, AVG(H) AS AVGH FROM Batting GROUP BY yearID) AS B  
WHERE A.yearID = B.yearID;
```

yearID	H	AVGH
2001	242	32.7700
2002	208	32.8067
2003	212	32.7075
2004	262	33.0773
2005	206	33.0759
2006	224	32.7328
2007	238	32.4744
2008	213	31.7487
2009	225	31.3573
2010	214	31.3820
2011	184	30.4298
2012	105	29.8743
2012	73	29.8743
2013	136	29.8744
2014	102	28.9861
2015	91	28.3351
2016	95	28.5071

17 rows in set (0.14 sec)

可以看得出來比其他球員的平均高很多。

再來看二壘安打的次數：


```
SELECT A.yearID, A.2B, B.AVG2B FROM (SELECT yearID, 2B FROM Batting
WHERE playerID = 'suzukic01') AS A,
(SELECT yearID, AVG(2B) AS AVG2B FROM Batting GROUP BY yearID) AS B
WHERE A.yearID = B.yearID;
```

yearID	2B	AVG2B
2001	34	6.5818
2002	27	6.5959
2003	29	6.5531
2004	24	6.6263
2005	21	6.6639
2006	20	6.6340
2007	22	6.6404
2008	20	6.5083
2009	31	6.2947
2010	30	6.2581
2011	22	6.0468
2012	15	5.8672
2012	13	5.8672
2013	15	5.8353
2014	13	5.6704
2015	5	5.5464
2016	15	5.5657

17 rows in set (0.14 sec)

也是比其他球員高了不少。

再來是三壘安打：

```
SELECT A.yearID, A.3B, B.AVG3B FROM (SELECT yearID, 3B FROM Batting
WHERE playerID = 'suzukic01') AS A,
(SELECT yearID, AVG(3B) AS AVG3B FROM Batting GROUP BY yearID) AS B
WHERE A.yearID = B.yearID;
```

yearID	3B	AVG3B
2001	8	0.6931
2002	8	0.6983
2003	8	0.6934
2004	5	0.6672
2005	12	0.6677
2006	9	0.6914
2007	7	0.6773
2008	7	0.6397
2009	4	0.6837
2010	3	0.6386
2011	3	0.6465
2012	5	0.6584
2012	1	0.6584
2013	3	0.5479
2014	2	0.5916
2015	6	0.6319
2016	5	0.5887

17 rows in set (0.13 sec)

一樣高了許多。

最後看全壘打的次數：

```
SELECT A.yearID, A.HR, B.AVGHR FROM (SELECT yearID, HR FROM Batting
WHERE playerID = 'suzukic01') AS A,
(SELECT yearID, AVG(HR) AS AVGHR FROM Batting GROUP BY yearID) AS B
WHERE A.yearID = B.yearID;
```

yearID	HR	AVGHR
2001	8	4.0762
2002	8	3.8355
2003	13	3.8656
2004	8	4.0498
2005	15	3.7722
2006	9	3.9114
2007	6	3.5791
2008	6	3.5220
2009	11	3.6326
2010	6	3.4019
2011	5	3.2772
2012	4	3.5043
2012	5	3.5043
2013	7	3.3080
2014	1	2.9171
2015	1	3.3035
2016	1	3.7829

17 rows in set (0.14 sec)

由以上得知，鈴木一郎的打擊次數高其他球員很多
以此判斷為好的球員，最後看一下薪水：

```
SELECT A.yearID, A.salary, B.AVGsalary FROM (SELECT yearID, salary FROM
Salaries WHERE playerID = 'suzukic01') AS A,
(SELECT yearID, AVG(salary) AS AVGsalary FROM Salaries GROUP BY yearID) AS
B WHERE A.yearID = B.yearID;
```

yearID	salary	AVGsalary
2001	5666667	2279841.0616
2002	3696000	2392526.6217
2003	4666667	2573472.9480
2004	6500000	2491776.1047
2005	12500000	2633830.8039
2006	12500000	2834520.8999
2007	12500000	2941435.8515
2008	17102149	3136517.1379
2009	18000000	3277646.9791
2010	18000000	3278746.8253
2011	18000000	3318838.2491
2012	18000000	3458421.2170
2013	6500000	3723344.3534
2014	6500000	3980445.9140
2015	2000000	4301276.0942
2016	2000000	4396409.6038

16 rows in set (0.03 sec)

幾乎每一年都比平均薪資高，尤其在 2005 ~ 2012 年，高了好幾倍

11. 查看在歷屆世界大賽中，贏得最多冠軍數的是哪一個隊伍。

```
SELECT Compare.teamID, Compare.T FROM (SELECT teamID,count(*) AS T
FROM Teams WHERE WSWin = 'Y' GROUP BY teamID) AS Compare, (SELECT
MAX(WS.Times) AS MOST FROM (SELECT count(*) AS Times FROM Teams
WHERE WSWin = 'Y' GROUP BY teamID) AS WS) AS MOSTWIN WHERE
Compare.T = MOSTWIN.MOST;
```

```
+-----+-----+
| teamID | T |
+-----+-----+
| NYA    | 27 |
+-----+-----+
1 row in set (0.01 sec)
```

以結果來看洋基隊贏了 27 次世界冠軍，為勝場最多的隊伍
以下是其他隊伍的勝場數。

```
mysql> SELECT teamID,count(*) AS T FROM Teams WHERE WSWin = 'Y' GROUP BY teamID;
+-----+-----+
| teamID | T |
+-----+-----+
| ANA    | 1 |
| ARI    | 1 |
| ATL    | 1 |
| BAL    | 3 |
| BOS    | 8 |
| BRO    | 1 |
| BSN    | 1 |
| CHA    | 3 |
| CHN    | 3 |
| CIN    | 5 |
| CLE    | 2 |
| DET    | 4 |
| DTN    | 1 |
| FLO    | 2 |
| KCA    | 2 |
| LAN    | 5 |
| MIN    | 2 |
| ML1    | 1 |
| NY1    | 7 |
| NYA    | 27 |
| NYN    | 2 |
| OAK    | 4 |
| PHA    | 5 |
| PHI    | 2 |
| PIT    | 5 |
| PRO    | 1 |
| SFN    | 3 |
| SL4    | 1 |
| SLN    | 11 |
| TOR    | 2 |
| WS1    | 1 |
+-----+-----+
31 rows in set (0.00 sec)
```