NBA Team Database

Instructions / Notes:

- You **may** create new Jupyter notebook cells to use for e.g. testing, debugging, exploring, etc.- this is encouraged in fact!
- Remember:
  - `%sql [SQL]` is for *single line* SQL queries
  - `%%sql`
    `[SQL]` is for *multi line* SQL queries

The dataset contains aggregate team statistics for 1980 - 2018 NBA seasons

To start, let's look at the primary relation in the database we've prepared for you.
Select Cell/Run All. This will load sql and connect to the database.

In [1]:
```
%load_ext sql
%sql sqlite:///nba.db
```

In [2]:
```
%%sql
SELECT *
FROM NBA
LIMIT 5;
```

```
 * sqlite:///nba.db
Done.
```

Out[2]:

recordid	year	team	game	win	home	PTS
0	1980	Lakers	1	1	1	109
1	1980	Lakers	2	0	1	104
2	1980	Lakers	3	1	0	111
3	1980	Lakers	4	0	0	102
4	1980	Lakers	5	1	1	108

In [3]:
```
%%sql
-- Task1: How many records are in the NBA database?


```

```
 * sqlite:///nba.db
Done.
```

Out[3]:

count(*)
220

In [4]:
```
%%sql
-- Task2: How many teams are in the database?  HINT: avoid counting duplicate team names.


```

```
 * sqlite:///nba.db
Done.
```

Out[4]:

Teams
13

In [5]:
```
%%sql

-- Task3:  Display the minimum, maximum, and average points for games played by the Cavaliers.
```

```
 * sqlite:///nba.db
Done.
```

Out[5]:

low game	high game	avg game
77	120	100.42857142857143

In [6]:
```
%%sql
-- Task4: How many rows are in the table for each team?
```

```
 * sqlite:///nba.db
Done.
```

Out[6]:

team	#rows
'Heat'	1
Bulls	35
Cavaliers	7
Celtics	25
Heat	17
Lakers	58
Mavericks	6
Pistons	14
Rockets	11
Sixers	4
Spurs	27
Warriorrs	1
Warriors	14

In [7]:
```
%%sql
-- Task5: Display the highest and average number of points that the Lakers scored each year.
```

```
 * sqlite:///nba.db
Done.
```

Out[7]:

year	max pts	average pts
1980	123	109.5
1982	129	112.33333333333333
1985	136	115.83333333333333
1987	141	115.16666666666667
1988	108	98.71428571428571
2000	120	104.83333333333333
2001	108	100.6
2002	113	106.0
2009	104	100.6
2010	102	90.57142857142857

In [8]:
```
%%sql

-- Task6: Show the number of games played for all teams in the database each year between 1990 and 2000 (incl
usive).
```

```
 * sqlite:///nba.db
Done.
```

Out[8]:

year	#games
1990	5
1991	5
1992	6
1993	6
1994	7
1995	4
1996	6
1997	6
1998	6
1999	5
2000	6

In [9]:
```
%%sql

-- Task7: Do teams play better at home? A value of 1 indicates a home game, while 0 indicates away.
-- Display the average points for each team and each value of home.  Round the average to the nearest intege
r.
```

```
 * sqlite:///nba.db
Done.
```

Out[9]:

team	home	avg points
'Heat'	1	88.0
Bulls	0	95.0
Bulls	1	99.0
Cavaliers	0	93.0
Cavaliers	1	111.0
Celtics	0	100.0
Celtics	1	111.0
Heat	0	93.0
Heat	1	102.0
Lakers	0	103.0
Lakers	1	108.0
Mavericks	0	95.0
Mavericks	1	95.0
Pistons	0	103.0
Pistons	1	100.0
Rockets	0	99.0
Rockets	1	94.0
Sixers	0	113.0
Sixers	1	108.0
Spurs	0	87.0
Spurs	1	92.0
Warriorrs	0	116.0
Warriors	0	106.0
Warriors	1	116.0

In [10]:
```
%%sql

-- Task8: Which teams had the most wins?
-- Display the results in descending order of wins, and only show results for teams with more than 10 wins.
-- If you are getting an incorrect result, consider what it is you want to do with the value in the win colum
n.
```

```
 * sqlite:///nba.db
Done.
```

Out[10]:

team	total wins
Lakers	40
Bulls	24
Spurs	20
Celtics	16
Heat	12
Pistons	12
Warriors	12

In [11]:
```
%%sql

-- Task9: We will consider a game with more than 120 points to be a high scoring game.
-- Count the high scoring games for each team.
```

```
 * sqlite:///nba.db
Done.
```

Out[11]:

team	# high scoring games
Bulls	2
Celtics	4
Heat	1
Lakers	6
Pistons	1
Warriors	4

In [12]:
```
%%sql


-- Task10
-- Come up with  an interesting quesion about the data and write a query to answer it.
-- Your query must use one or more functions and include all clauses in SFWGHO.
```

```
 * sqlite:///nba.db
0 rows affected.
```

Out[12]:
```
[]
```