REVOU MINICOURSE

INTRO TO DATA ANALYTICS - CASE STUDY

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INTRODUCTION

The dataset that we used is NCAA Basketball which is available on BigQuery Public Datasets. This datasets contains data about NCAA Basketball games, teams, and players. Game data covers play-by-play and box scores back to 2009, as well as final scores back to 1996. Additional data about wins and losses goes back to the 1894-1895 season for some teams. All data runs throug the end of the 2017-2018 season.

WHAT TYPES OF BASKETBALL PLAY EVENTS ARE THERE AND HOW MANY EVENTS OCCUR?

```sql
SELECT
  event_type,
  COUNT(event_type) AS count_event
FROM
  `bigquery-public-data.ncaa_basketball.mbb_pbp_sr`
GROUP BY
  event_type
ORDER BY
  count_event DESC;
```

	A	B
1	event_type	count_event
2	rebound	790490
3	twopointmiss	425422
4	turnover	410166
5	twopointmade	400648
6	freethrowmade	316637
7	assist	293403
8	threepointmiss	291935
9	personalfoul	243613
10	shootingfoul	183541
11	threepointmade	153967

```
SELECT
 scheduled_date,
 h_name,
 h_three_points_made,
 h_three_points_att,
 h_three_points_pct a_name,
 a_name,
 a_three_points_made,
 a_three_points_att,
 a_three_points_pct,
 (h_three_points_made + a_three_points_made) AS three_points_total
FROM
 `bigquery-public-data.ncaa_basketball.mbb_games_sr`
ORDER BY
 three_points_total desc;
```

	A	B	C	D	E	F	G	H	I	J
1	scheduled_date	h_name	h_three_points_mad	h_three_points_att	a_name	a_name_1	a_three_points_mad	a_three_points_att	a_three_points_pct	three_points_total
2	2016-11-18	Tigers	24	52	46.2	Knights	16	38	42.1	40
3	2016-11-22	Tigers	23	45	51.1	Wildcats	14	39	35.9	37
4	2017-12-10	Skyhawks	15	35	42.9	Cougars	21	51	41.2	36
5	2014-11-27	Gaels	24	39	61.5	Hornets	11	36	30.6	35
6	2017-02-11	Bears	17	28	60.7	Colonels	18	48	37.5	35
7	2017-12-17	Bears	14	33	42.4	Tigers	20	51	39.2	34
8	2017-03-07	Golden Flashes	16	31	51.6	Chippewas	18	37	48.6	34
9	2017-01-04	Dolphins	21	34	61.8	Knights	13	29	44.8	34
10	2018-02-11	Bulldogs	16	25	64	Bulldogs	18	44	40.9	34
11	2016-12-20	Tribe	19	44	43.2	Tigers	14	44	31.8	33

WHICH 5 BASKETBALL VENUES HAVE THE HIGHEST SEATING CAPACITY?

```sql
SELECT
 venue_name,
 venue_capacity,
FROM
 `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
GROUP BY venue_name, venue_capacity
ORDER BY venue_capacity desc
LIMIT 10;
```

	A	B
1	venue_name	venue_capacity
2	AT&T Stadium	80000
3	University of Phoenix	72220
4	NRG Stadium	71054
5	Georgia Dome	71000
6	Lucas Oil Stadium	70000
7	Petco Park	41164
8	Alamodome	39500
9	Carrier Dome	35446
10	Carrier Dome	33000
11	Malone Stadium	30427

WHICH TEAMS PLAYED IN THE HIGHEST SCORING GAME SINCE 2010?

```sql
SELECT
 scheduled_date,
 name,
 points_game,
 opp_name,
 opp_points_game,
 (points_game + opp_points_game) AS total_points
FROM
 `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
WHERE season > 2010
ORDER BY total_points desc
LIMIT 10;
```

	A	B	C	D	E	F
1	scheduled_date	name	points_game	opp_name	opp_points_game	total_points
2	2017-02-10	Terriers	131	Bulldogs	127	258
3	2017-02-10	Bulldogs	127	Terriers	131	258
4	2017-02-04	Eagles	130	Vikings	124	254
5	2017-02-04	Vikings	124	Eagles	130	254
6	2013-11-14	Pioneers	118	Crusaders	122	240
7	2013-11-14	Crusaders	122	Pioneers	118	240
8	2016-12-03	Seahawks	126	Falcons	113	239
9	2016-12-03	Falcons	113	Seahawks	126	239
10	2016-12-08	Eagles	94	Bulldogs	144	238
11	2016-12-08	Bulldogs	144	Eagles	94	238

SINCE 2015, WHAT WAS THE BIGGEST DIFFERENCE IN FINAL SCORE FOR NATIONAL CHAMPIONSHIP?

```
SELECT
  scheduled_date,
  name,
  tournament_type
  points_game,
  opp_name,
  opp_points_game,
  (points_game + opp_points_game) AS total_points,
  ABS(points_game - opp_points_game) AS diff_points,
FROM
  `bigquery-public-data.ncaa_basketball.mbb_teams_games_sr`
WHERE season > 2015 AND tournament_type = 'National Championship'
ORDER BY diff_points desc, total_points desc
LIMIT 10;
```

	A	B	C	D	E	F	G
1	scheduled_date	name	points_game	opp_name	opp_points_game	total_points	diff_points
2	2018-04-03	Wildcats	National Champions	Wolverines	62	141	17
3	2018-04-03	Wolverines	National Champions	Wildcats	79	141	17
4	2017-04-04	Bulldogs	National Champions	Tar Heels	71	136	6
5	2017-04-04	Tar Heels	National Champions	Bulldogs	65	136	6