# *Codes*

Constraint

```
CREATE CONSTRAINT ON (t:Team) ASSERT t.name IS UNIQUE;
```

Graph Model

```
MATCH n=(:Team)-[:INTERACTS]-(:Team) RETURN n
```

Shortest Path

```
// Shortest path from Jacksonville Jaguars to Detroit Lions
MATCH (JAX:Team {name: "Jacksonville Jaguars"}), (DET:Team {name: "Detroit Lions"})
MATCH p=shortestPath((JAX)-[INTERACTS*]-(DET))
RETURN p
```

All Shortest Path

```
// All Shortest path from Kansas City Chiefs to Los Angeles Rams
MATCH (KC:Team {name: "Kansas City Chiefs"}), (LAR:Team {name: "Los Angeles Rams"})
MATCH p=allShortestPaths((KC)-[INTERACTS*]-(LAR))
RETURN p
```

Degree Centrality

```
MATCH (t:Team)
RETURN t.name AS team, size( (t)-[:INTERACTS]-() ) AS degree ORDER BY degree DESC
```

Weighted Degree Centrality

```
MATCH (t:Team)-[r:INTERACTS]-()
RETURN t.name AS team, sum(r.Spread) AS SpreadTotal, sum(r.OverUnder) AS OverUnderTo
tal ORDER BY SpreadTotal ASC
```

```
MATCH (t:Team)-[r:INTERACTS]-()
RETURN t.name AS team, sum(r.OverUnder) AS OverUnderTotal, sum(r.Spread) AS SpreadTo
tal ORDER BY OverUnderTotal DESC

MATCH (t:Team)-[r:INTERACTS]-()
RETURN t.name AS team, avg(r.Spread) AS SpreadTotal, avg(r.OverUnder) AS OverUnderTot
al ORDER BY SpreadTotal ASC
```

Meet Over/Under

```
MATCH (n:Team), (:Team)-[p:INTERACTS]-
(:Team) WHERE (p.AwayScore + p.HomeScore) > p.OverUnder RETURN p, n
```

Times Exceed Over/Under

```
MATCH (n:Team)-[p:INTERACTS]-
(t:Team) WHERE (p.AwayScore + p.HomeScore) > p.OverUnder RETURN n as Team, count(t)
 AS Games ORDER BY Games DESC

MATCH (n:Team {name: 'Los Angeles Rams'})-(t:Team) WHERE (p.AwayScore +
p.HomeScore) > p.OverUnder RETURN p, n, t
```

Home Games Over OFF Avg, Under DEF Avg.

```
MATCH (h:Team)-[p:INTERACTS]-
(a:Team) WHERE (p.AwayScore < 23) AND (p.HomeScore > 23) RETURN h AS Team, p.Stad
ium AS Stadium, count(h) AS GreatGames ORDER BY GreatGames DESC
```

Spread Not Met

```
MATCH (h:Team)-[p:INTERACTS]-
(a:Team) WHERE (p.AwayScore - p.HomeScore) < p.Spread RETURN h.name AS Team, p.Spr
ead AS SpreadSet, p.FavoriteID AS Favorite, p.Week AS Week
```