

ADT Coding Practice

Week 10

Dipak Bange

1. Look at the first 5 lines

```
LOAD CSV WITH HEADERS FROM "file:///adt-spring23\week_10\flights_10k.csv" AS row
RETURN row
LIMIT 5
```

2. Create nodes and constraints

```
CREATE CONSTRAINT FOR (a:Airport)
  REQUIRE a.code IS UNIQUE;
```

3. Import nodes and relationships

```
LOAD CSV WITH HEADERS FROM "file:///adt-spring23\week_10\flights_10k.csv" AS row
MERGE (origin:Airport {code: row.Origin})
MERGE (destination:Airport {code: row.Dest})
WITH row.UniqueCarrier + row.FlightNum + "_" + row.Year + "-" + row.Month + "-" +
row.DayofMonth + "_" + row.Origin + "_" + row.Dest AS flightIdentifier, row, origin, destination
MERGE (flight:Flight { id: flightIdentifier })
ON CREATE SET flight.date = row.Year + "-" + row.Month + "-" + row.DayofMonth,
  flight.airline = row.UniqueCarrier, flight.number = row.FlightNum, flight.departure =
row.CRSDepTime,
  flight.arrival = row.CRSArrTime, flight.distance = row.Distance, flight.cancelled =
row.Cancelled
MERGE (flight)-[:ORIGIN]->(origin)
MERGE (flight)-[:DESTINATION]->(destination)
```

4. Check your import

```
MATCH (:Flight)
RETURN count(*)
```

5. Check schema

```
call db.schema.visualization()
```

6. Coercing values: Integers

```
MATCH (flight:Flight)
```

```
SET flight.distance = toInteger(flight.distance)
```

```
# Test the integer
```

```
MATCH (flight:Flight)
```

```
WHERE flight.distance > 500
```

```
RETURN flight
```

7. Coercing values: Boolean

```
MATCH (flight:Flight)
```

```
SET flight.cancelled = CASE WHEN flight.cancelled = "1" THEN true ELSE false END
```

```
# Test the Boolean
```

```
MATCH (flight:Flight)
```

```
WHERE flight.cancelled
```

```
RETURN flight
```

8. Test the boolean

```
PROFILE
```

```
MATCH path = (origin:Airport {code: "LAS"})<-[ORIGIN]-(flight:Flight)-[:DESTINATION]->(destination:Airport {code: "MDW"})
```

```
WHERE flight.date = "2008-1-3"
```

```
RETURN path
```

9. Add new relationship

```
# Add CONNECTED_TO
```

```
:auto USING PERIODIC COMMIT
```

```
LOAD CSV WITH HEADERS FROM "file:///adt-sping23/week_10/flights_10k.csv" AS row
```

```
MERGE (origin)-[connection:CONNECTED_TO {
```

```
  airline: row.UniqueCarrier,
```

```
  flightNumber: row.FlightNum,
```

```
  date: toInteger(row.Year) + "-" + toInteger(row.Month) + "-" + toInteger(row.DayofMonth)}}-
```

```
>(destination)
```

```
ON CREATE SET connection.departure = toInteger(row.CRSDepTime), connection.arrival = toInteger(row.CRSArrTime)
```

```
# Count Connections
```

```
MATCH ()-[:CONNECTED_TO]->()
```

```
RETURN COUNT(*)
```

10. Search

```
MATCH path = (origin:Airport {code: "LAS"})<-[ORIGIN]-(flight:Flight)-[:DESTINATION]->(destination:Airport {code: "MDW"})
```

```
WHERE flight.date = "2008-1-3"  
RETURN path
```