23 – CYPHER HANDOUT ANSWERS

CS 1656 – Spring 2017
Introduction to Data Science
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Query 1: Find users who like Tom Hanks and Adam Sandler

• Q1a) Find users who like Tom Hanks

MATCH (u:Person) - [:LIKED] -> (a:Actor)
WHERE a.name = "Tom Hanks"
RETURN u
Query 1: Find users who like Tom Hanks and Adam Sandler

- **WRONG VERSION of Q1:**

```
MATCH (u:Person) - [:LIKED] -> (a:Person)
WHERE a.name = "Tom Hanks"
    OR a.name = "Adam Sandler"
RETURN u
```
Query 1: Find users who like Tom Hanks and Adam Sandler

MATCH (u:Person) - [:LIKED] -> (a:Actor)
MATCH (u:Person) - [:LIKED] -> (b:Actor)
WHERE a.name = "Tom Hanks"
    AND b.name = "Adam Sandler"
RETURN u
Q2: Find that people who have seen the same movies as Bob have seen

• Q2a: Find all the movies that Bob has seen

MATCH (m:Movie) <-[:VIEWED]- (b:Person {name: "Bob"})
RETURN m
Q2: Find that people who have seen the same movies as Bob have seen

- Q2b: Find all the people who have viewed movies that Bob has seen

MATCH (m:Movie) <-[:VIEWED]- (b:Person {name: "Bob"})
MATCH (m:Movie) <-[:VIEWED]- (u:Person)
RETURN m
Q2: Find that people who have seen the same movies as Bob have seen

- Q2: Find the movies of all the people who have viewed movies that Bob has seen

MATCH (m:Movie) <-[:VIEWED]- (b:Person {name: "Bob"})
MATCH (m:Movie) <-[:VIEWED]- (u:Person)
MATCH (m:Movie) <-[:VIEWED]- (u:Person) -
    ["":VIEWED"]-> (n:Movie)
WHERE m.title != n.title
RETURN m
Q3: Find actors who also directed a movie

MATCH (a:Actor) -[:DIRECTED]-> (m:Movie)
RETURN a

Version2:
MATCH (n:Movie) <-[:ACTED_IN]-> (a:Actor)
  -[:DIRECTED]-> (m:Movie)
RETURN a
Q4: Find actors who directed a movie they also acted it.

MATCH (a:Actor) -[:DIRECTED]-> (m:Movie)
RETURN a

**Version 2:**

MATCH (n:Movie) <-[:ACTED_IN]->(a:Actor)
                     -[:DIRECTED]-> (m:Movie)
RETURN a