



Course: Introduction to Neo4j — Exercises

Welcome to *Browser Guides*! This is the interface for performing exercises to this Neo4j course. They are presented in the form of self-paced exercises. Navigate through the exercises by pressing the forward button at the right of the window.

We start by walking you through some preparations and instructions. If you have used Neo4j Browser Guides before, you can skip to the last page.

Before you start

Ensure the database is started

If you are using Neo4j Desktop, ensure that the project you have selected for use with Neo4j Browser is connected to a database that is started.

If you are using a Neo4j Sandbox, the Neo4j Browser is already connected to a started database.

Enable multi-statement query editor



1. Click the Browser Settings button in the lower left side of Neo4j Browser
2. Make sure that the *Enable multi statement query editor* checkbox is selected:



Pin a window

It is useful to pin the Browser Guide to the top, so that it doesn't scroll down when you execute statements. You do this



by pressing the *pin* button in the upper right corner of the page:



Pressing it once more will *unpin* the window

again:

About the exercises

Preparations before each exercise

Each exercise starts with a *Preparations* page. It shows you how to reset the database to the point it should be at to begin the exercise. This is useful, for example, if you have made a mistake in one of the previous exercises, or if you have done some testing on your own that changes the database into something that does not match the instructions in the exercises.

Writing and executing queries

1. Write the query in the query pane at the top of Neo4j Browser.

2. Click the *Run* button  in order to execute the code.

Using code blocks

Many of the exercises contain *code blocks* with runnable code. Follow these steps in order to run the code against your database:

1. Click inside of the code block. You will notice that the code is copied into the code pane at the top of Neo4j Browser.
2. Click the *Run* button  in order to execute the code.

"Taking it further"

Some exercises include optional sections called *Taking it further*. These are extra exercises that you can complete if you have more time.

Exercises:

Exercise 1 — Retrieving Nodes

Exercise 2 — Filtering Queries Using Property Values

Exercise 3 — Filtering Queries Using Relationships

Exercise 4 — Filtering Queries Using the WHERE Clause

Exercise 5 — Controlling Query Processing

Exercise 6 — Creating Nodes

Exercise 7 — Creating Relationships

Exercise 8 — Deleting Nodes and Relationships

Exercise 9 — Merging Data in the Graph

Exercise 1

Exercise 1: Retrieving Nodes (Preparations)

Make sure you have the Movie database, which contains 171 nodes and 253 relationships.



This is what you should see when you click the database icon.

The screenshot shows the Neo4j Database Information page. On the left, there are icons for a database, a star, and a folder. The main area has two sections: "Node Labels" and "Relationship Types". In "Node Labels", there are three buttons: "* (171)" (highlighted in green), "Movie", and "Person". In "Relationship Types", there are four rows of buttons: "* (253)", "ACTED_IN", "DIRECTED"; "FOLLOWS", "PRODUCED"; "REVIEWED", and "WROTE".

If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
  (Keanu)-[:ACTED_IN {roles:['Neo']}]->(TheMatrix),
  (Carrie)-[:ACTED_IN {roles:['Trinity']}]->(TheMatrix),
  (Laurence)-[:ACTED_IN {roles:['Morpheus']}]->(TheMatrix),
  (Hugo)-[:ACTED_IN {roles:['Agent Smith']}]->(TheMatrix),
  (LillyW)-[:DIRECTED]->(TheMatrix),
  (LanaW)-[:DIRECTED]->(TheMatrix),
  (JoelS)-[:PRODUCED]->(TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>(TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
  (Keanu)-[:ACTED_IN {roles:['Neo']}]->(TheMatrixReloaded),
  (Carrie)-[:ACTED_IN {roles:['Trinity']}]->(TheMatrixReloaded),
  (Laurence)-[:ACTED_IN {roles:['Morpheus']}]->(TheMatrixReloaded),
  (Hugo)-[:ACTED_IN {roles:['Agent Smith']}]->(TheMatrixReloaded),
  (LillyW)-[:DIRECTED]->(TheMatrixReloaded),
  (LanaW)-[:DIRECTED]->(TheMatrixReloaded),
  (JoelS)-[:PRODUCED]->(TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
  (Keanu)-[:ACTED_IN {roles:['Neo']}]->(TheMatrixRevolutions),
  (Carrie)-[:ACTED_IN {roles:['Trinity']}]->(TheMatrixRevolutions),
  (Laurence)-[:ACTED_IN {roles:['Morpheus']}]->(TheMatrixRevolutions),
  (Hugo)-[:ACTED_IN {roles:['Agent Smith']}]->(TheMatrixRevolutions),
  (LillyW)-[:DIRECTED]->(TheMatrixRevolutions),
  (LanaW)-[:DIRECTED]->(TheMatrixRevolutions),
  (JoelS)-[:PRODUCED]->(TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
```

CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
(Keanu)-[:ACTED_IN {roles:['Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:['Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:['John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})
CREATE (TomC:Person {name:'Tom Cruise', born:1962})
CREATE (JackN:Person {name:'Jack Nicholson', born:1937})
CREATE (DemiM:Person {name:'Demi Moore', born:1962})
CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})
CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})
CREATE (NoahW:Person {name:'Noah Wyle', born:1971})
CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})
CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})
CREATE (JTW:Person {name:'J.T. Walsh', born:1943})
CREATE (JamesM:Person {name:'James Marshall', born:1967})
CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})
CREATE (RobR:Person {name:'Rob Reiner', born:1947})
CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})
CREATE
(TomC)-[:ACTED_IN {roles:['Lt. Daniel Kaffee']}]->(AFewGoodMen),
(JackN)-[:ACTED_IN {roles:['Col. Nathan R. Jessup']}]->(AFewGoodMen),
(DemiM)-[:ACTED_IN {roles:['Lt. Cdr. JoAnne Galloway']}]->(AFewGoodMen),
(KevinB)-[:ACTED_IN {roles:['Capt. Jack Ross']}]->(AFewGoodMen),
(KieferS)-[:ACTED_IN {roles:['Lt. Jonathan Kendrick']}]->(AFewGoodMen),
(NoahW)-[:ACTED_IN {roles:['Cpl. Jeffrey Barnes']}]->(AFewGoodMen),
(CubaG)-[:ACTED_IN {roles:['Cpl. Carl Hammaker']}]->(AFewGoodMen),
(KevinP)-[:ACTED_IN {roles:['Lt. Sam Weinberg']}]->(AFewGoodMen),
(JTW)-[:ACTED_IN {roles:['Lt. Col. Matthew Andrew Markinson']}]->(AFewGoodMen),
(JamesM)-[:ACTED_IN {roles:['Pfc. Louden Downey']}]->(AFewGoodMen),
(ChristopherG)-[:ACTED_IN {roles:['Dr. Stone']}]->(AFewGoodMen),
(AaronS)-[:ACTED_IN {roles:['Man in Bar']}]->(AFewGoodMen),
(RobR)-[:DIRECTED]->(AFewGoodMen),
(AaronS)-[:WRITED]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})
CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})
CREATE (ValK:Person {name:'Val Kilmer', born:1959})
CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})
CREATE (TomS:Person {name:'Tom Skerritt', born:1933})
CREATE (MegR:Person {name:'Meg Ryan', born:1961})
CREATE (TonyS:Person {name:'Tony Scott', born:1944})
CREATE (JimC:Person {name:'Jim Cash', born:1941})
CREATE
(TomC)-[:ACTED_IN {roles:['Maverick']}]->(TopGun),
(KellyM)-[:ACTED_IN {roles:['Charlie']}]->(TopGun),
(ValK)-[:ACTED_IN {roles:['Iceman']}]->(TopGun),
(AnthonyE)-[:ACTED_IN {roles:['Goose']}]->(TopGun),
(TomS)-[:ACTED_IN {roles:['Viper']}]->(TopGun),
(MegR)-[:ACTED_IN {roles:['Carole']}]->(TopGun),
(TonyS)-[:DIRECTED]->(TopGun),
(JimC)-[:WRITED]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})
CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})
CREATE (KellyP:Person {name:'Kelly Preston', born:1962})
CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})
CREATE (JayM:Person {name:'Jay Mohr', born:1970})
CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})
CREATE (ReginaK:Person {name:'Regina King', born:1971})
CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})
CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})
CREATE
(TomC)-[:ACTED_IN {roles:['Jerry Maguire']}]->(JerryMaguire),
(CubaG)-[:ACTED_IN {roles:['Rod Tidwell']}]->(JerryMaguire),
(ReneeZ)-[:ACTED_IN {roles:['Dorothy Boyd']}]->(JerryMaguire),
(KellyP)-[:ACTED_IN {roles:['Avery Bishop']}]->(JerryMaguire),
(JerryO)-[:ACTED_IN {roles:['Frank Cushman']}]->(JerryMaguire),
(JayM)-[:ACTED_IN {roles:['Bob Sugar']}]->(JerryMaguire),
(BonnieH)-[:ACTED_IN {roles:['Laurel Boyd']}]->(JerryMaguire),
(ReginaK)-[:ACTED_IN {roles:['Marcee Tidwell']}]->(JerryMaguire),
(JonathanL)-[:ACTED_IN {roles:['Ray Boyd']}]->(JerryMaguire),
(CameronC)-[:DIRECTED]->(JerryMaguire),
(CameronC)-[:PRODUCED]->(JerryMaguire),
(CameronC)-[:WRITED]->(JerryMaguire)

CREATE (StandByMe:Movie {title:'Stand By Me', released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})
 CREATE (RiverP:Person {name:'River Phoenix', born:1970})
 CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connelly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),

(BillPull)-[:ACTED_IN {roles:'[Walter]'}]->(SleeplessInSeattle),
(VictorG)-[:ACTED_IN {roles:'[Greg]'}]->(SleeplessInSeattle),
(RosieO)-[:ACTED_IN {roles:'[Becky]'}]->(SleeplessInSeattle),
(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:'[Joe Banks]'}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:'[DeDe', 'Angelica Graynamore', 'Patricia Graynamore]'}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:'[Baw]'}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:'[Harry Burns]'}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:'[Sally Albright]'}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:'[Marie]'}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:'[Jess]'}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:'[Mr. White]'}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:'[Faye Dolan]'}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:'[Tina]'}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:'[Shane Falco]'}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:'[Annabelle Farrell]'}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:'[Jimmy McGinty]'}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:'[Clifford Franklin]'}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:'[Admiral]'}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:'[Dieter Dengler]'}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:'[Squad Leader]'}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:'[Duane]'}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:'[Armand Goldman]'}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:'[Albert Goldman]'}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:'[Sen. Kevin Keeley]'}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE
(RichardH)-[:ACTED_IN {roles:'[English Bob]'}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:'[Bill Munny]'}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:'[Little Bill Daggett]'}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})

CREATE (IceT:Person {name:'Ice-T', born:1958})
 CREATE (RobertL:Person {name:'Robert Longo', born:1953})
 CREATE
 (Keanu)-[:ACTED_IN {roles:['Johnny Mnemonic']}]->(JohnnyMnemonic),
 (Takeshi)-[:ACTED_IN {roles:['Takahashi']}]->(JohnnyMnemonic),
 (Dina)-[:ACTED_IN {roles:['Jane']}]->(JohnnyMnemonic),
 (IceT)-[:ACTED_IN {roles:['J-Bone']}]->(JohnnyMnemonic),
 (RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
 CREATE (HalleB:Person {name:'Halle Berry', born:1966})
 CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
 CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
 CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
 CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Zachry', 'Dr. Henry Goose', 'Isaac Sachs', 'Dermot Hoggins']}]->(CloudAtlas),
 (Hugo)-[:ACTED_IN {roles:['Bill Smoke', 'Haskell Moore', 'Tadeusz Kesselring', 'Nurse Noakes', 'Boardman Mephi', 'Old Georgie']}]->(CloudAtlas),
 (HalleB)-[:ACTED_IN {roles:['Luisa Rey', 'Jocasta Ayrs', 'Ovid', 'Meronym']}]->(CloudAtlas),
 (JimB)-[:ACTED_IN {roles:['Vivyan Ayrs', 'Captain Molyneux', 'Timothy Cavendish']}]->(CloudAtlas),
 (TomT)-[:DIRECTED]->(CloudAtlas),
 (LillyW)-[:DIRECTED]->(CloudAtlas),
 (LanaW)-[:DIRECTED]->(CloudAtlas),
 (DavidMitchell)-[:WROTE]->(CloudAtlas),
 (StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
 CREATE (IanM:Person {name:'Ian McKellen', born:1939})
 CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
 CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
 CREATE (RonH:Person {name:'Ron Howard', born:1954})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Dr. Robert Langdon']}]->(TheDaVinciCode),
 (IanM)-[:ACTED_IN {roles:['Sir Leigh Teabing']}]->(TheDaVinciCode),
 (AudreyT)-[:ACTED_IN {roles:['Sophie Neveu']}]->(TheDaVinciCode),
 (PaulB)-[:ACTED_IN {roles:['Silas']}]->(TheDaVinciCode),
 (RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
 CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
 CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
 CREATE (JohnH:Person {name:'John Hurt', born:1940})
 CREATE (BenM:Person {name:'Ben Miles', born:1967})
 CREATE
 (Hugo)-[:ACTED_IN {roles:['V']}]->(VforVendetta),
 (NatalieP)-[:ACTED_IN {roles:['Evey Hammond']}]->(VforVendetta),
 (StephenR)-[:ACTED_IN {roles:['Eric Finch']}]->(VforVendetta),
 (JohnH)-[:ACTED_IN {roles:['High Chancellor for Adam Sutler']}]->(VforVendetta),
 (BenM)-[:ACTED_IN {roles:['Dascomb']}]->(VforVendetta),
 (JamesM)-[:DIRECTED]->(VforVendetta),
 (LillyW)-[:PRODUCED]->(VforVendetta),
 (LanaW)-[:PRODUCED]->(VforVendetta),
 (JoelS)-[:PRODUCED]->(VforVendetta),
 (LillyW)-[:WROTE]->(VforVendetta),
 (LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
 CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
 CREATE (JohnG:Person {name:'John Goodman', born:1960})
 CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
 CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
 CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
 CREATE (Rain:Person {name:'Rain', born:1982})
 CREATE
 (EmileH)-[:ACTED_IN {roles:['Speed Racer']}]->(SpeedRacer),
 (JohnG)-[:ACTED_IN {roles:['Pops']}]->(SpeedRacer),
 (SusanS)-[:ACTED_IN {roles:['Mom']}]->(SpeedRacer),
 (MatthewF)-[:ACTED_IN {roles:['Racer X']}]->(SpeedRacer),
 (ChristinaR)-[:ACTED_IN {roles:['Trixie']}]->(SpeedRacer),
 (Rain)-[:ACTED_IN {roles:['Taejo Togokahn']}]->(SpeedRacer),
 (BenM)-[:ACTED_IN {roles:['Cass Jones']}]->(SpeedRacer),
 (LillyW)-[:DIRECTED]->(SpeedRacer),
 (LanaW)-[:DIRECTED]->(SpeedRacer),
 (LillyW)-[:WROTE]->(SpeedRacer),
 (LanaW)-[:WROTE]->(SpeedRacer),
 (JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
 CREATE (NaomieH:Person {name:'Naomie Harris'})

CREATE
 (Rain)-[:ACTED_IN {roles:'Raizo'}]->(NinjaAssassin),
 (NaomieH)-[:ACTED_IN {roles:'Mika Coretti'}]->(NinjaAssassin),
 (RickY)-[:ACTED_IN {roles:'Takeshi'}]->(NinjaAssassin),
 (BenM)-[:ACTED_IN {roles:'Ryan Maslow'}]->(NinjaAssassin),
 (JamesM)-[:DIRECTED]->(NinjaAssassin),
 (LillyW)-[:PRODUCED]->(NinjaAssassin),
 (LanaW)-[:PRODUCED]->(NinjaAssassin),
 (Joels)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
 CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
 CREATE (DavidM:Person {name:'David Morse', born:1953})
 CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
 CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
 CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
 CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
 CREATE
 (TomH)-[:ACTED_IN {roles:'Paul Edgecomb'}]->(TheGreenMile),
 (MichaelD)-[:ACTED_IN {roles:'John Coffey'}]->(TheGreenMile),
 (DavidM)-[:ACTED_IN {roles:'Brutus "Brutal" Howell'}]->(TheGreenMile),
 (BonnieH)-[:ACTED_IN {roles:'Jan Edgecomb'}]->(TheGreenMile),
 (JamesC)-[:ACTED_IN {roles:'Warden Hal Moores'}]->(TheGreenMile),
 (SamR)-[:ACTED_IN {roles:'"Wild Bill" Wharton'}]->(TheGreenMile),
 (GaryS)-[:ACTED_IN {roles:'Burt Hammersmith'}]->(TheGreenMile),
 (PatriciaC)-[:ACTED_IN {roles:'Melinda Moores'}]->(TheGreenMile),
 (FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
 CREATE (FrankL:Person {name:'Frank Langella', born:1938})
 CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
 CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
 CREATE
 (FrankL)-[:ACTED_IN {roles:'Richard Nixon'}]->(FrostNixon),
 (MichaelS)-[:ACTED_IN {roles:'David Frost'}]->(FrostNixon),
 (KevinB)-[:ACTED_IN {roles:'Jack Brennan'}]->(FrostNixon),
 (OliverP)-[:ACTED_IN {roles:'Bob Zelnick'}]->(FrostNixon),
 (SamR)-[:ACTED_IN {roles:'James Reston, Jr.'}]->(FrostNixon),
 (RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
 CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
 CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
 CREATE
 (JackN)-[:ACTED_IN {roles:'Hoffa'}]->(Hoffa),
 (DannyD)-[:ACTED_IN {roles:'Robert "Bobby" Ciaro'}]->(Hoffa),
 (JTW)-[:ACTED_IN {roles:'Frank Fitzsimmons'}]->(Hoffa),
 (JohnR)-[:ACTED_IN {roles:'Peter "Pete" Connelly'}]->(Hoffa),
 (DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
 CREATE (EdH:Person {name:'Ed Harris', born:1950})
 CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
 CREATE
 (TomH)-[:ACTED_IN {roles:'Jim Lovell'}]->(Apollo13),
 (KevinB)-[:ACTED_IN {roles:'Jack Swigert'}]->(Apollo13),
 (EdH)-[:ACTED_IN {roles:'Gene Kranz'}]->(Apollo13),
 (BillPax)-[:ACTED_IN {roles:'Fred Haise'}]->(Apollo13),
 (GaryS)-[:ACTED_IN {roles:'Ken Mattingly'}]->(Apollo13),
 (RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
 CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
 CREATE (JanB:Person {name:'Jan de Bont', born:1943})
 CREATE
 (BillPax)-[:ACTED_IN {roles:'Bill Harding'}]->(Twister),
 (HelenH)-[:ACTED_IN {roles:'Dr. Jo Harding'}]->(Twister),
 (ZachG)-[:ACTED_IN {roles:'Eddie'}]->(Twister),
 (PhilipH)-[:ACTED_IN {roles:'Dustin "Dusty" Davis'}]->(Twister),
 (JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
 CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
 CREATE
 (TomH)-[:ACTED_IN {roles:'Chuck Noland'}]->(CastAway),
 (HelenH)-[:ACTED_IN {roles:'Kelly Frears'}]->(CastAway),
 (RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})

CREATE (MilosF:Person {name:'Milos Forman', born:1932})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),
 (DannyD)-[:ACTED_IN {roles:['Martini']}]->(OneFlewOvertheCuckoosNest),
 (MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})
 CREATE (DianeK:Person {name:'Diane Keaton', born:1946})
 CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Harry Sanborn']}]->(SomethingsGottaGive),
 (DianeK)-[:ACTED_IN {roles:['Erica Barry']}]->(SomethingsGottaGive),
 (Keanu)-[:ACTED_IN {roles:['Julian Mercer']}]->(SomethingsGottaGive),
 (NancyM)-[:DIRECTED]->(SomethingsGottaGive),
 (NancyM)-[:PRODUCED]->(SomethingsGottaGive),
 (NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})
 CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Andrew Marin']}]->(BicentennialMan),
 (OliverP)-[:ACTED_IN {roles:['Rupert Burns']}]->(BicentennialMan),
 (ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})
 CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Rep. Charlie Wilson']}]->(CharlieWilsonsWar),
 (JuliaR)-[:ACTED_IN {roles:['Joanne Herring']}]->(CharlieWilsonsWar),
 (PhilipH)-[:ACTED_IN {roles:['Gust Avrakotos']}]->(CharlieWilsonsWar),
 (MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus']}]->(ThePolarExpress),
 (RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})
 CREATE (Madonna:Person {name:'Madonna', born:1954})
 CREATE (GeenaD:Person {name:'Geena Davis', born:1956})
 CREATE (LoriP:Person {name:'Lori Petty', born:1963})
 CREATE (PennyM:Person {name:'Penny Marshall', born:1943})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Jimmy Dugan']}]->(ALeagueofTheirOwn),
 (GeenaD)-[:ACTED_IN {roles:['Dottie Hinson']}]->(ALeagueofTheirOwn),
 (LoriP)-[:ACTED_IN {roles:['Kit Keller']}]->(ALeagueofTheirOwn),
 (RosieO)-[:ACTED_IN {roles:['Doris Murphy']}]->(ALeagueofTheirOwn),
 (Madonna)-[:ACTED_IN {roles:['"All the Way" Mae Mordabito']}]->(ALeagueofTheirOwn),
 (BillPax)-[:ACTED_IN {roles:['Bob Hinson']}]->(ALeagueofTheirOwn),
 (PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})
 CREATE (AngelaScope:Person {name:'Angela Scope'})
 CREATE (JessicaThompson:Person {name:'Jessica Thompson'})
 CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE
 (JamesThompson)-[:FOLLOWS]->(JessicaThompson),
 (AngelaScope)-[:FOLLOWS]->(JessicaThompson),
 (PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE
 (JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
 (JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
 (JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
 (AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
 (JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
 (JessicaThompson)-[:REVIEWED {summary:"Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances", rating:45}]->(TheBirdcage),
 (JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
 (JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
 (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire)

Exercise 1: Retrieving Nodes (Overview)

In this exercise, you will perform some basic retrievals from the Movie database.

- **Exercise 1.1:** Retrieve all nodes from the database.
- **Exercise 1.2:** Examine the *schema* of your database.
- **Exercise 1.3:** Retrieve all *Person* nodes.
- **Exercise 1.4:** Retrieve all *Movie* nodes.

Go to the next page to start this exercise.

Exercise 1.1: Retrieve all nodes from the database (Instructions)

Write a query to retrieve *all* nodes from the database.

Exercise 1.1: Retrieve all nodes from the database (Solution)

Write a query to retrieve *all* nodes from the database.

```
MATCH (n) RETURN n
```

You should now see all nodes in the graph in the result pane. In this query, *n* is a variable, which is a container that holds the result.

The result returned should be:



Notes:

- If the nodes displayed are not connected, make sure that *Connect result nodes* is selected in your Neo4j Browser settings.
- If no nodes are returned, then perhaps you did not load the *Movie* database (see *Preparations*).

Exercise 1.2: Examine the *schema* of your database (Instructions)

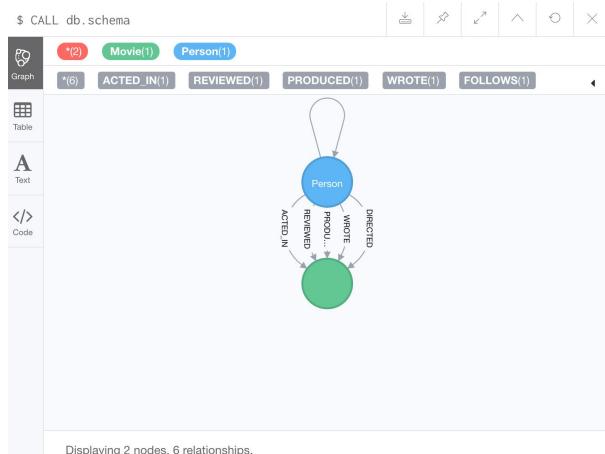
Write a query to display the *schema* of your database.

Exercise 1.2: Examine the *schema* of your database (Solution)

Write a query to display the *schema* of your database.

```
CALL db.schema()
```

The result returned should be:



Exercise 1.3: Retrieve all *Person* nodes (Instructions)

Write a query to retrieve all *Person* nodes.

Exercise 1.3: Retrieve all *Person* nodes (Solution)

Write a query to retrieve all *Person* nodes.

```
MATCH (p:Person) RETURN p
```

The result returned should be:



Here we use *p* as the variable representing all nodes retrieved and what is returned for the query. Notice also, that no relationships are displayed. That is because most *Person* nodes have no relationships with other *Person* nodes.

Exercise 1.4: Retrieve all *Movie* nodes (Instructions)

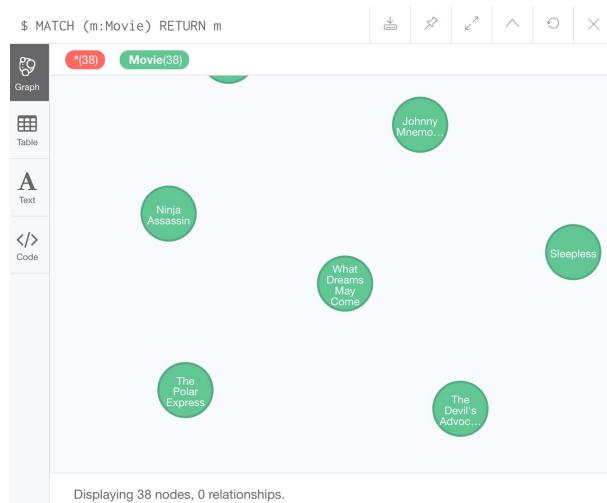
Write a query to retrieve all *Movie* nodes.

Exercise 1.4: Retrieve all *Movie* nodes (Solution)

Write a query to retrieve all *Movie* nodes.

```
MATCH (p:Movie) RETURN p
```

The result returned should be:



Here we use *m* as the variable representing all nodes retrieved and what is returned for the query. Notice also, that no relationships are displayed. That is because a *Movie* node has no relationships with another *Movie* node.

Exercise 1: Retrieving Nodes (Summary)

In this exercise, you performed some basic retrievals from the Movie database. You also called the method to examine the schema of the graph.

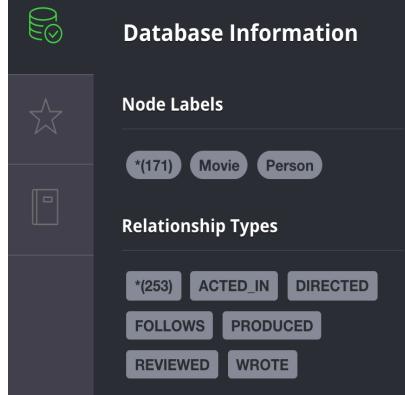
Continue to Exercise 2

Exercise 2

Exercise 2: Filtering queries using property values (Preparations)

Make sure you have the Movie database, which contains 171 nodes and 253 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrix),
(LillyW)-[:DIRECTED]>(TheMatrix),
(LanaW)-[:DIRECTED]>(TheMatrix),
(JoelS)-[:PRODUCED]>(TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>(TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixReloaded),
(LillyW)-[:DIRECTED]>(TheMatrixReloaded),
(LanaW)-[:DIRECTED]>(TheMatrixReloaded),
(JoelS)-[:PRODUCED]>(TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>(TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>(TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>(TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})
CREATE (JackN:Person {name:'Jack Nicholson', born:1937})
CREATE (DemiM:Person {name:'Demi Moore', born:1962})
CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})
CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})
CREATE (NoahW:Person {name:'Noah Wyle', born:1971})
CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})
CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})
CREATE (JTW:Person {name:'J.T. Walsh', born:1943})
CREATE (JamesM:Person {name:'James Marshall', born:1967})
CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})
CREATE (RobR:Person {name:'Rob Reiner', born:1947})
CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})
CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),
(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup]'}]->(AFewGoodMen),
(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway]'}]->(AFewGoodMen),
(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross]'}]->(AFewGoodMen),
(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick]'}]->(AFewGoodMen),
(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes]'}]->(AFewGoodMen),
(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker]'}]->(AFewGoodMen),
(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg]'}]->(AFewGoodMen),
(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson]'}]->(AFewGoodMen),
(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey]'}]->(AFewGoodMen),
(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone]'}]->(AFewGoodMen),
(AaronS)-[:ACTED_IN {roles:'[Man in Bar]'}]->(AFewGoodMen),
(RobR)-[:DIRECTED]->(AFewGoodMen),
(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})
CREATE (ValK:Person {name:'Val Kilmer', born:1959})
CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})
CREATE (TomS:Person {name:'Tom Skerritt', born:1933})
CREATE (MegR:Person {name:'Meg Ryan', born:1961})
CREATE (TonyS:Person {name:'Tony Scott', born:1944})
CREATE (JimC:Person {name:'Jim Cash', born:1941})
CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick]'}]->(TopGun),
(KellyM)-[:ACTED_IN {roles:'[Charlie]'}]->(TopGun),
(ValK)-[:ACTED_IN {roles:'[Iceman]'}]->(TopGun),
(AnthonyE)-[:ACTED_IN {roles:'[Goose]'}]->(TopGun),
(TomS)-[:ACTED_IN {roles:'[Viper]'}]->(TopGun),
(MegR)-[:ACTED_IN {roles:'[Carole]'}]->(TopGun),
(TonyS)-[:DIRECTED]->(TopGun),
(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})
CREATE (KellyP:Person {name:'Kelly Preston', born:1962})
CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})
CREATE (JayM:Person {name:'Jay Mohr', born:1970})
CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})
CREATE (ReginaK:Person {name:'Regina King', born:1971})
CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})
CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})
CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire]'}]->(JerryMaguire),
(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell]'}]->(JerryMaguire),
(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd]'}]->(JerryMaguire),
(KellyP)-[:ACTED_IN {roles:'[Avery Bishop]'}]->(JerryMaguire),
(JerryO)-[:ACTED_IN {roles:'[Frank Cushman]'}]->(JerryMaguire),
(JayM)-[:ACTED_IN {roles:'[Bob Sugar]'}]->(JerryMaguire),
(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd]'}]->(JerryMaguire),
(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell]'}]->(JerryMaguire),
(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd]'}]->(JerryMaguire),
(CameronC)-[:DIRECTED]->(JerryMaguire),
(CameronC)-[:PRODUCED]->(JerryMaguire),
(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
 (MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})
 CREATE (DianeK:Person {name:'Diane Keaton', born:1946})
 CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})
 CREATE
 (JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
 (DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
 (Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
 (NancyM)-[:DIRECTED]->(SomethingsGottaGive),
 (NancyM)-[:PRODUCED]->(SomethingsGottaGive),
 (NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})
 CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})
 CREATE
 (Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
 (OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
 (ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})
 CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
 (JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
 (PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
 (MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
 (RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})
 CREATE (Madonna:Person {name:'Madonna', born:1954})
 CREATE (GeenaD:Person {name:'Geena Davis', born:1956})
 CREATE (LoriP:Person {name:'Lori Petty', born:1963})
 CREATE (PennyM:Person {name:'Penny Marshall', born:1943})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
 (GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
 (LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
 (RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
 (Madonna)-[:ACTED_IN {roles:'["All the Way", Mae Mordabito]'}]->(ALeagueofTheirOwn),
 (BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
 (PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})
 CREATE (AngelaScope:Person {name:'Angela Scope'})
 CREATE (JessicaThompson:Person {name:'Jessica Thompson'})
 CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE
 (JamesThompson)-[:FOLLOWS]->(JessicaThompson),
 (AngelaScope)-[:FOLLOWS]->(JessicaThompson),
 (PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE
 (JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
 (JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
 (JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
 (AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
 (JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
 (JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),
 (JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
 (JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
 (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire)

Exercise 2: Filtering queries using property values (Overview)

Thus far, you have filtered what nodes are returned from a query based upon the `Label` for the node where you returned

Person or *Movie* nodes.

In this exercise, you will retrieve nodes from the database by specifying a filter criteria that is a property value. Then, you will examine the property keys in the training *Movie* graph. Finally, you will query the graph to return property values for nodes retrieved.

- **Exercise 2.1:** Retrieve all movies that were released in a specific year.
- **Exercise 2.2:** View the retrieved results as a table.
- **Exercise 2.3:** Query the database for all property keys.
- **Exercise 2.4:** Retrieve all Movies released in a specific year, returning their titles.
- **Exercise 2.5:** Display *title*, *released*, and *tagline* values for every *Movie* node in the graph.
- **Exercise 2.6:** Display more user-friendly headers in the table.

Go to the next page to start this exercise.

Exercise 2.1: Retrieve all movies that were released in a specific year (Instructions)

Retrieve all *Movie* nodes that have a *released* property value of 2003.

Exercise 2.1: Retrieve all movies that were released in a specific year (Solution)

Retrieve all *Movie* nodes that have a *released* property value of 2003.

```
MATCH (m:Movie {released:2003}) RETURN m
```

The result returned should be:

The screenshot shows the Neo4j Browser interface. On the left, there is a sidebar with icons for Graph, Table, Text, and Code. The 'Table' icon is highlighted. In the main area, three green circular nodes are displayed, each representing a movie. The top node has the text 'Somethi...'. The middle node has 'The Matrix Revol...'. The bottom node has 'The Matrix Relo...'. Above the nodes, the query '\$ MATCH (m:Movie {released:2003}) RETURN m' is shown. At the bottom of the main area, it says 'Displaying 3 nodes, 0 relationships.'

Exercise 2.2: View the retrieved results as a table (Instructions)

View the results you just viewed in Neo4j Browser as a table.

Exercise 2.2: View the retrieved results as a table (Solution)

View the results you just viewed in Neo4j Browser as a table.

In the result pane, click the table icon. You should see this table in the result pane:

The screenshot shows the Neo4j Browser interface. On the left, there is a sidebar with four tabs: 'Graph' (selected), 'Table' (highlighted with a red border), 'Text', and 'Code'. The main pane displays the results of a Cypher query: '\$ MATCH (m:Movie {released:2003}) RETURN m'. The results are shown in a table format with two rows. Each row contains a JSON object representing a movie node. The first row corresponds to 'The Matrix Reloaded' and the second to 'The Matrix Revolutions'.

m
{ "title": "The Matrix Reloaded", >tagline": "Free your mind", "released": 2003 }
{ "title": "The Matrix Revolutions", >tagline": "Everything that has a beginning has an end", "released": 2003 }

Exercise 2.2: View the retrieved results as a table (Taking it further- optional)

- Retrieve all movie nodes in the database and view the data as a table. Notice the values for the released property for each node.
- Try querying the graph using different years.

Exercise 2.3: Query the database for all property keys (Instructions)

You want to know the existing property keys used in a graph. This will help you to write Cypher queries that utilizes property keys for filtering data or for returning data.

Query the database for all property keys.

Exercise 2.3: Query the database for all property keys (Solution)

Query the database for all property keys.

In the query editor pane, enter the Cypher query to retrieve the property keys from the database.

```
CALL db.propertyKeys
```

The result returned should be:

```
$ CALL db.propertyKeys
```

propertyKey
"title"
"released"
"tagline"
"name"
"born"
"roles"
"summary"
"rating"
"id"
"share_link"
"favorite_count"
"display_name"

Started streaming 12 records in less than 1 ms and completed in less than 1 ms.

Exercise 2.4: Retrieve all Movies released in a specific year, returning their titles (Instructions)

Rather than returning the nodes that satisfy a query, you want to return data from the nodes.

Retrieve all Movies released in 2006, returning their titles.

Exercise 2.4: Retrieve all Movies released in a specific year, returning their titles (Solution)

Retrieve all Movies released in 2006, returning their titles.

In the query editor pane, enter the Cypher query to retrieve all *Movie* nodes from the database with a *released* value of *2006*, but rather than returning the nodes, return the *title* values for all nodes retrieved.

```
MATCH (m:Movie {released: 2006}) RETURN m.title
```

The result returned should be:

```
$ MATCH (m:Movie {released: 2006}) RETURN m.title
```

m.title
"RescueDawn"
"The Da Vinci Code"
"V for Vendetta"

Exercise 2.4: Retrieve all Movies released in a specific year, returning their titles (Taking it further - optional)

- Retrieve all *Movie* nodes and view them as a table. Observe the properties that *Movie* nodes have.
- Query the database using a different year and also return more property values.

Exercise 2.5: Display *title*, *released*, and *tagline* values for every *Movie* node in the graph (Instructions)

When you start working with a graph, it is sometimes helpful to simply view property values. This can sometimes help to inform you about future queries you may want to execute against the graph.

Retrieve all *Movie* nodes from the database and return the *title*, *released*, and *tagline* values.

Exercise 2.5: Display *title*, *released*, and *tagline* values for every *Movie* node in the graph (Solution)

Retrieve all *Movie* nodes from the database and return the *title*, *released*, and *tagline* values.

In the query editor pane, enter the Cypher query to retrieve all *Movie* nodes from the database and write *title*, *released*, and *tagline* values.

```
MATCH (m:Movie) RETURN m.title, m.released, m.tagline
```

The result returned should be:

Table	m.title	m.released	m.tagline
	"The Matrix"	1999	"Welcome to the Real World"
	"The Matrix Reloaded"	2003	"Free your mind"
	"The Matrix Revolutions"	2003	"Everything that has a beginning has an end"
	"The Devil's Advocate"	1997	"Evil has its winning ways"
	"A Few Good Men"	1992	"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."

Exercise 2.6: Display more user-friendly headers in the table (Instructions)

Modify the query you just ran so that the headings for the columns of the table returned are more descriptive.

Exercise 2.6: Display more user-friendly headers in the table (Solution)

Modify the query you just ran so that the headings for the columns of the table returned are more descriptive.

```
MATCH (m:Movie) RETURN m.title AS 'movie title', m.released AS released, m.tagline AS tagLine
```

The result returned should be:

Table	movie title	released	tagLine
	"The Matrix"	1999	"Welcome to the Real World"
	"The Matrix Reloaded"	2003	"Free your mind"
	"The Matrix Revolutions"	2003	"Everything that has a beginning has an end"
	"The Devil's Advocate"	1997	"Evil has its winning ways"
	"A Few Good Men"	1992	"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."
	"Top Gun"	1986	"I feel the need, the need for speed."
	"Jerry Maguire"	2000	"The rest of his life begins now."
	"Stand By Me"	1986	"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."
	"As Good as It Gets"	1997	"A comedy from the heart that goes for the throat."
	"What Dreams May Come"	1998	"After life there is more. The end is just the beginning."
	"Snow Falling on Cedars"	1999	"First loves last. Forever."

Exercise 2: Filtering queries using property values (Summary)

In this exercise, you retrieved nodes from the database by specifying a filter criteria that is a property value. Then, you examined the property keys in the training *Movie* graph. Finally, you queried the graph to return property values for nodes retrieved.

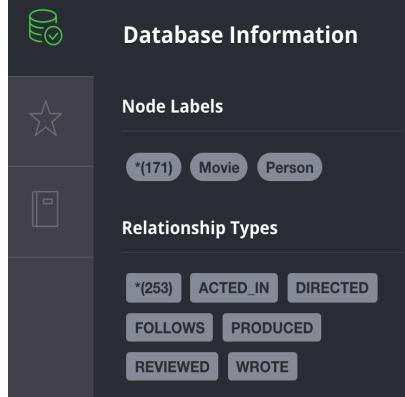
Continue to Exercise 3

Exercise 3

Exercise 3: Filtering queries using relationships (Preparations)

Make sure you have the Movie database, which contains 171 nodes and 253 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrix),
(LillyW)-[:DIRECTED]>(TheMatrix),
(LanaW)-[:DIRECTED]>(TheMatrix),
(JoelS)-[:PRODUCED]>(TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>(TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixReloaded),
(LillyW)-[:DIRECTED]>(TheMatrixReloaded),
(LanaW)-[:DIRECTED]>(TheMatrixReloaded),
(JoelS)-[:PRODUCED]>(TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>(TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>(TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>(TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})

CREATE (JackN:Person {name:'Jack Nicholson', born:1937})

CREATE (DemiM:Person {name:'Demi Moore', born:1962})

CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})

CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})

CREATE (NoahW:Person {name:'Noah Wyle', born:1971})

CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})

CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})

CREATE (JTW:Person {name:'J.T. Walsh', born:1943})

CREATE (JamesM:Person {name:'James Marshall', born:1967})

CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})

CREATE (RobR:Person {name:'Rob Reiner', born:1947})

CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})

CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),

(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup']}]->(AFewGoodMen),

(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway']}]->(AFewGoodMen),

(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross']}]->(AFewGoodMen),

(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick']}]->(AFewGoodMen),

(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes']}]->(AFewGoodMen),

(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker']}]->(AFewGoodMen),

(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg']}]->(AFewGoodMen),

(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson']}]->(AFewGoodMen),

(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey']}]->(AFewGoodMen),

(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone']}]->(AFewGoodMen),

(AaronS)-[:ACTED_IN {roles:'[Man in Bar']}]->(AFewGoodMen),

(RobR)-[:DIRECTED]->(AFewGoodMen),

(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})

CREATE (ValK:Person {name:'Val Kilmer', born:1959})

CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})

CREATE (TomS:Person {name:'Tom Skerritt', born:1933})

CREATE (MegR:Person {name:'Meg Ryan', born:1961})

CREATE (TonyS:Person {name:'Tony Scott', born:1944})

CREATE (JimC:Person {name:'Jim Cash', born:1941})

CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick']}]->(TopGun),

(KellyM)-[:ACTED_IN {roles:'[Charlie']}]->(TopGun),

(ValK)-[:ACTED_IN {roles:'[Iceman']}]->(TopGun),

(AnthonyE)-[:ACTED_IN {roles:'[Goose']}]->(TopGun),

(TomS)-[:ACTED_IN {roles:'[Viper']}]->(TopGun),

(MegR)-[:ACTED_IN {roles:'[Carole']}]->(TopGun),

(TonyS)-[:DIRECTED]->(TopGun),

(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})

CREATE (KellyP:Person {name:'Kelly Preston', born:1962})

CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})

CREATE (JayM:Person {name:'Jay Mohr', born:1970})

CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})

CREATE (ReginaK:Person {name:'Regina King', born:1971})

CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})

CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})

CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire']}]->(JerryMaguire),

(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell']}]->(JerryMaguire),

(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd']}]->(JerryMaguire),

(KellyP)-[:ACTED_IN {roles:'[Avery Bishop']}]->(JerryMaguire),

(JerryO)-[:ACTED_IN {roles:'[Frank Cushman']}]->(JerryMaguire),

(JayM)-[:ACTED_IN {roles:'[Bob Sugar']}]->(JerryMaguire),

(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd']}]->(JerryMaguire),

(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell']}]->(JerryMaguire),

(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd']}]->(JerryMaguire),

(CameronC)-[:DIRECTED]->(JerryMaguire),

(CameronC)-[:PRODUCED]->(JerryMaguire),

(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
 (MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})
 CREATE (DianeK:Person {name:'Diane Keaton', born:1946})
 CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})
 CREATE
 (JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
 (DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
 (Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
 (NancyM)-[:DIRECTED]->(SomethingsGottaGive),
 (NancyM)-[:PRODUCED]->(SomethingsGottaGive),
 (NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})
 CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})
 CREATE
 (Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
 (OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
 (ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})
 CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
 (JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
 (PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
 (MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
 (RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})
 CREATE (Madonna:Person {name:'Madonna', born:1954})
 CREATE (GeenaD:Person {name:'Geena Davis', born:1956})
 CREATE (LoriP:Person {name:'Lori Petty', born:1963})
 CREATE (PennyM:Person {name:'Penny Marshall', born:1943})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
 (GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
 (LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
 (RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
 (Madonna)-[:ACTED_IN {roles:'["All the Way" Mae Mordabito]'}]->(ALeagueofTheirOwn),
 (BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
 (PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})
 CREATE (AngelaScope:Person {name:'Angela Scope'})
 CREATE (JessicaThompson:Person {name:'Jessica Thompson'})
 CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE
 (JamesThompson)-[:FOLLOWS]->(JessicaThompson),
 (AngelaScope)-[:FOLLOWS]->(JessicaThompson),
 (PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE
 (JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
 (JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
 (JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
 (AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
 (JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
 (JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),
 (JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
 (JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
 (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire)

Exercise 3: Filtering queries using relationships (Overview)

In the previous exercise, you have filtered what nodes and properties are returned from a query based upon a value of a

property for a node.

In this exercise, you will write queries that filter the nodes and property values that are returned based upon the relationships between nodes. You will first use an anonymous node to specify a filter based upon a node's specific relationship to other nodes. Then you will write a query that selects data based upon any relationship between nodes. Next, you will write a Cypher query to return information about the relationships between nodes. Finally, you will write a query to return property values for the relationships between nodes.

- **Exercise 3.1:** Display the schema of the database.
- **Exercise 3.2:** Retrieve all people who wrote the movie *Speed Racer*.
- **Exercise 3.3:** Retrieve all movies that are connected to the person, *Tom Hanks*.
- **Exercise 3.4:** Retrieve information about the relationships *Tom Hanks* had with the set of movies retrieved earlier.
- **Exercise 3.5:** Retrieve information about the roles that *Tom Hanks* acted in.

Go to the next page to start this exercise.

Exercise 3.1: Display the schema of the database (Instructions)

You will use schema information to help you specify relationships in your queries.

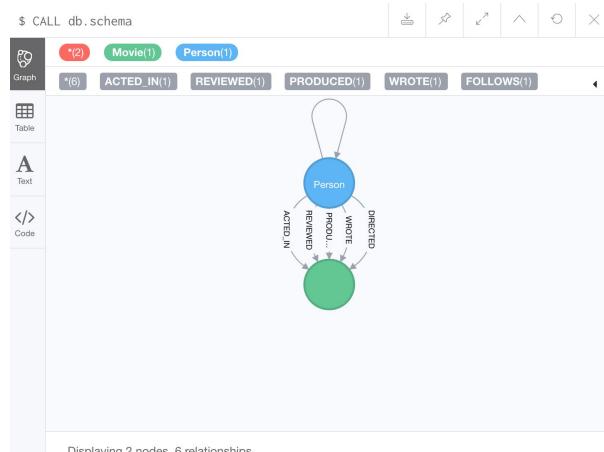
Display the schema of the database.

Exercise 3.1: Display the schema of the database (Solution)

Display the schema of the database.

```
CALL db.schema
```

The result returned should be:



Exercise 3.2: Retrieve all people who wrote the movie *Speed Racer* (Instructions)

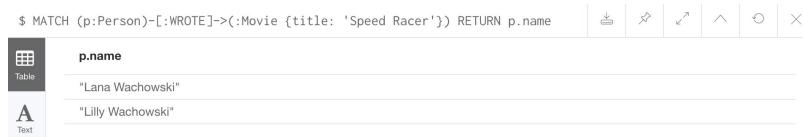
Retrieve all people who wrote the movie *Speed Racer*.

Exercise 3.2: Retrieve all people who wrote the movie *Speed Racer* (Solution)

Retrieve all people who wrote the movie *Speed Racer*.

```
MATCH (p:Person)-[:WROTE]->(:Movie {title: 'Speed Racer'}) RETURN p.name
```

The result returned should be:



A screenshot of the Neo4j browser interface. On the left, there are two tabs: 'Table' (selected) and 'Text'. The 'Table' tab shows a single row with the header 'p.name' and two entries: "'Lana Wachowski'" and "'Lilly Wachowski'". Above the table, the Cypher query is visible: '\$ MATCH (p:Person)-[:WROTE]->(:Movie {title: 'Speed Racer'}) RETURN p.name'. Below the table are several small, light-gray control icons.

Notice here that the *:Movie* node is an anonymous node because for the query, we do not need information about the *Movie* node.

Exercise 3.2: Retrieve all people who wrote the movie *Speed Racer* (Taking it further - optional)

- Retrieve all people who have written other movies.
- Retrieve people who have acted in a particular movie.
- Retrieve people who have directed a particular movie.

Exercise 3.3: Retrieve all movies that are connected to the person, *Tom Hanks* (Instructions)

Retrieve all movies connected with *Tom Hanks*.

Hint: *Tom Hanks* has multiple relationships with a movie so you should not specify a relationship type in the query.

Exercise 3.3: Retrieve all movies that are connected to the person, *Tom Hanks* (Solution)

Retrieve all movies connected with *Tom Hanks*.

Hint: *Tom Hanks* has multiple relationships with a movie so you should not specify a relationship type in the query.

In the query editor pane, enter the Cypher query to retrieve all movies that are connected to *Tom Hanks*.

```
MATCH (m:Movie)<--(Person {name: 'Tom Hanks'}) RETURN m.title
```

The result returned should be:

```
$ MATCH (m:Movie)<--(:Person {name: 'Tom Hanks'}) RETURN m.title
```



Table



Text



Code

m.title

```
"Apollo 13"  
"Cast Away"  
"The Polar Express"  
"A League of Their Own"  
"Charlie Wilson's War"  
"Cloud Atlas"  
"The Da Vinci Code"  
"The Green Mile"  
"You've Got Mail"  
"That Thing You Do"  
"That Thing You Do"  
"Joe Versus the Volcano"  
"Sleepless in Seattle"
```

Started streaming 13 records after 1 ms and completed after 2 ms.

Notice that *Tom Hanks* has multiple relationships to the movie, "That Thing You Do". Also notice that we specify the named node (with a variable) first. It is a best practice to put named nodes first in a query.

Exercise 3.3: Retrieve all movies that are connected to the person, *Tom Hanks* (Taking it further - optional)

- Retrieve all movies connected with another actor.
- Retrieve all people connected with a particular movie.

Exercise 3.4: Retrieve information about the relationships *Tom Hanks* has with the set of movies retrieved earlier (Instructions)

Modify the query that you just executed to return the type information about the relationships between *Tom Hanks* and the movies.

Exercise 3.4: Retrieve information about the relationships *Tom Hanks* has with the set of movies retrieved earlier (Solution)

Modify the query that you just executed to return the type information about the relationships between *Tom Hanks* and the movies.

```
MATCH (m:Movie)-[rel]-(:Person {name: 'Tom Hanks'}) RETURN m.title, type(rel)
```

The result returned should be:

```
$ MATCH (m:Movie)-[rel]-(:Person {name: 'Tom Hanks'}) RETURN m.title, type(rel)
```



m.title	type(rel)
"Charlie Wilson's War"	"ACTED_IN"
"The Polar Express"	"ACTED_IN"
"A League of Their Own"	"ACTED_IN"
"Cast Away"	"ACTED_IN"
"Apollo 13"	"ACTED_IN"
"The Green Mile"	"ACTED_IN"
"The Da Vinci Code"	"ACTED_IN"
"Cloud Atlas"	"ACTED_IN"
"That Thing You Do"	"DIRECTED"
"That Thing You Do"	"ACTED_IN"
"Joe Versus the Volcano"	"ACTED_IN"
"Sleepless in Seattle"	"ACTED_IN"
"You've Got Mail"	"ACTED_IN"

Started streaming 13 records after 1 ms and completed after 2 ms.

Exercise 3.4: Retrieve information about the relationships *Tom Hanks* has with the set of movies retrieved earlier (Taking it further - optional)

- Retrieve the relationship information about a different actor.

Exercise 3.5: Retrieve information about the roles that *Tom Hanks* acted in (Instructions)

As an actor, a *Person* node in the database connects to a *Movie* node using the *ACTED_IN* relationship. One of the properties of the *ACTED_IN* relationship is *roles*.

Retrieve information about the roles that *Tom Hanks* played.

Exercise 3.5: Retrieve information about the roles that *Tom Hanks* acted in (Solution)

Retrieve information about the roles that *Tom Hanks* played.

Write and execute the Cypher query to retrieve all of the roles that *Tom Hanks* acted in.

```
MATCH (m:Movie)-[rel:ACTED_IN]-(:Person {name: 'Tom Hanks'}) RETURN m.title, rel.roles
```

The result returned should be:

```
$ MATCH (m:Movie)-[rel:ACTED_IN]-(:Person {name: 'Tom Hanks'}) RETURN m.title, rel.roles
```



m.title	rel.roles
"Charlie Wilson's War"	["Rep. Charlie Wilson"]
"The Polar Express"	["Hero Boy", "Father", "Conductor", "Hobo", "Scrooge", "Santa Claus"]
"A League of Their Own"	["Jimmy Dugan"]
"Cast Away"	["Chuck Noland"]
"Apollo 13"	["Jim Lovell"]
"The Green Mile"	["Paul Edgecomb"]
"The Da Vinci Code"	["Dr. Robert Langdon"]
"Cloud Atlas"	["Zachry", "Dr. Henry Goose", "Isaac Sachs", "Dermot Hoggins"]
"That Thing You Do"	["Mr. White"]
"Joe Versus the Volcano"	["Joe Banks"]
"Sleepless in Seattle"	["Sam Baldwin"]
"You've Got Mail"	["Joe Fox"]

Started streaming 12 records in less than 1 ms and completed after 1 ms.

Exercise 3.5: Retrieve information about the roles that *Tom Hanks* acted in (Taking it further -

optional)

- Retrieve all roles for a different actor.
- Retrieve all roles played for a particular movie.

Exercise 3: Filtering queries using relationships (Summary)

In this exercise, you wrote queries that filter the nodes and property values that are returned based upon the relationships between nodes. You first used an anonymous node to specify a filter based upon a node's specific relationship to other nodes. Then you wrote a query that selects data based upon any relationship between nodes. Next, you wrote a Cypher query to return information about the relationships between nodes. Finally, you wrote a query to return property values for the relationships between nodes.

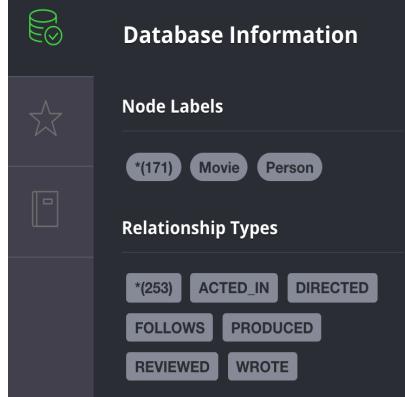
Continue to Exercise 4

Exercise 4

Exercise 4: Filtering queries using the WHERE clause (Preparations)

Make sure you have the Movie database, which contains 171 nodes and 253 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>-(TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>-(TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>-(TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>-(TheMatrix),
(LillyW)-[:DIRECTED]>-(TheMatrix),
(LanaW)-[:DIRECTED]>-(TheMatrix),
(JoelS)-[:PRODUCED]>-(TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>-(TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>-(TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>-(TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>-(TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>-(TheMatrixReloaded),
(LillyW)-[:DIRECTED]>-(TheMatrixReloaded),
(LanaW)-[:DIRECTED]>-(TheMatrixReloaded),
(JoelS)-[:PRODUCED]>-(TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>-(TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>-(TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>-(TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>-(TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>-(TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>-(TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>-(TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})
CREATE (JackN:Person {name:'Jack Nicholson', born:1937})
CREATE (DemiM:Person {name:'Demi Moore', born:1962})
CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})
CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})
CREATE (NoahW:Person {name:'Noah Wyle', born:1971})
CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})
CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})
CREATE (JTW:Person {name:'J.T. Walsh', born:1943})
CREATE (JamesM:Person {name:'James Marshall', born:1967})
CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})
CREATE (RobR:Person {name:'Rob Reiner', born:1947})
CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})
CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),
(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup]'}]->(AFewGoodMen),
(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway]'}]->(AFewGoodMen),
(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross]'}]->(AFewGoodMen),
(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick]'}]->(AFewGoodMen),
(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes]'}]->(AFewGoodMen),
(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker]'}]->(AFewGoodMen),
(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg]'}]->(AFewGoodMen),
(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson]'}]->(AFewGoodMen),
(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey]'}]->(AFewGoodMen),
(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone]'}]->(AFewGoodMen),
(AaronS)-[:ACTED_IN {roles:'[Man in Bar]'}]->(AFewGoodMen),
(RobR)-[:DIRECTED]->(AFewGoodMen),
(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})
CREATE (ValK:Person {name:'Val Kilmer', born:1959})
CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})
CREATE (TomS:Person {name:'Tom Skerritt', born:1933})
CREATE (MegR:Person {name:'Meg Ryan', born:1961})
CREATE (TonyS:Person {name:'Tony Scott', born:1944})
CREATE (JimC:Person {name:'Jim Cash', born:1941})
CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick]'}]->(TopGun),
(KellyM)-[:ACTED_IN {roles:'[Charlie]'}]->(TopGun),
(ValK)-[:ACTED_IN {roles:'[Iceman]'}]->(TopGun),
(AnthonyE)-[:ACTED_IN {roles:'[Goose]'}]->(TopGun),
(TomS)-[:ACTED_IN {roles:'[Viper]'}]->(TopGun),
(MegR)-[:ACTED_IN {roles:'[Carole]'}]->(TopGun),
(TonyS)-[:DIRECTED]->(TopGun),
(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})
CREATE (KellyP:Person {name:'Kelly Preston', born:1962})
CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})
CREATE (JayM:Person {name:'Jay Mohr', born:1970})
CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})
CREATE (ReginaK:Person {name:'Regina King', born:1971})
CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})
CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})
CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire]'}]->(JerryMaguire),
(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell]'}]->(JerryMaguire),
(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd]'}]->(JerryMaguire),
(KellyP)-[:ACTED_IN {roles:'[Avery Bishop]'}]->(JerryMaguire),
(JerryO)-[:ACTED_IN {roles:'[Frank Cushman]'}]->(JerryMaguire),
(JayM)-[:ACTED_IN {roles:'[Bob Sugar]'}]->(JerryMaguire),
(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd]'}]->(JerryMaguire),
(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell]'}]->(JerryMaguire),
(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd]'}]->(JerryMaguire),
(CameronC)-[:DIRECTED]->(JerryMaguire),
(CameronC)-[:PRODUCED]->(JerryMaguire),
(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
 (MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})
 CREATE (DianeK:Person {name:'Diane Keaton', born:1946})
 CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})
 CREATE
 (JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
 (DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
 (Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
 (NancyM)-[:DIRECTED]->(SomethingsGottaGive),
 (NancyM)-[:PRODUCED]->(SomethingsGottaGive),
 (NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})
 CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})
 CREATE
 (Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
 (OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
 (ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})
 CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
 (JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
 (PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
 (MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
 (RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})
 CREATE (Madonna:Person {name:'Madonna', born:1954})
 CREATE (GeenaD:Person {name:'Geena Davis', born:1956})
 CREATE (LoriP:Person {name:'Lori Petty', born:1963})
 CREATE (PennyM:Person {name:'Penny Marshall', born:1943})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
 (GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
 (LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
 (RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
 (Madonna)-[:ACTED_IN {roles:'["All the Way" Mae Mordabito]'}]->(ALeagueofTheirOwn),
 (BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
 (PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})
 CREATE (AngelaScope:Person {name:'Angela Scope'})
 CREATE (JessicaThompson:Person {name:'Jessica Thompson'})
 CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE
 (JamesThompson)-[:FOLLOWS]->(JessicaThompson),
 (AngelaScope)-[:FOLLOWS]->(JessicaThompson),
 (PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE
 (JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
 (JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
 (JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
 (AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
 (JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
 (JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),
 (JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
 (JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
 (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire)

Exercise 4: Filtering queries using the WHERE clause (Overview)

In the previous exercise, you have filtered your queries based upon node labels, property values, and relationships in a

MATCH pattern.

In this exercise, you will write queries that filter the results that are returned using a WHERE clause. First, you will write some queries that filter based upon property values. Then you will specify node labels in the filter. Next, you will test whether a property exists. Then you will filter queries based upon string comparisons. Next, you will write queries that filter based upon patterns in the graph. Finally, you will test if property values are in a list.

- **Exercise 4.1:** Retrieve all movies that *Tom Cruise* acted in.
- **Exercise 4.2:** Retrieve all people that were born in the 70's.
- **Exercise 4.3:** Retrieve the actors who acted in the movie *The Matrix* who were born after 1960.
- **Exercise 4.4:** Retrieve all movies by testing the node label and a property.
- **Exercise 4.5:** Retrieve all people that wrote movies by testing the relationship between two nodes.
- **Exercise 4.6:** Retrieve all people in the graph that do not have a property.
- **Exercise 4.7:** Retrieve all people related to movies where the relationship has a property.
- **Exercise 4.8:** Retrieve all actors whose name begins with *James*.
- **Exercise 4.9:** Retrieve all all *REVIEW* relationships from the graph with filtered results.
- **Exercise 4.10:** Retrieve all people who have produced a movie, but have not directed a movie.
- **Exercise 4.11:** Retrieve the movies and their actors where one of the actors also directed the movie.
- **Exercise 4.12:** Retrieve all movies that were released in a set of years.
- **Exercise 4.13:** Retrieve the movies that have an actor's role that is the name of the movie.

Go to the next page to start this exercise.

Exercise 4.1: Retrieve all movies that *Tom Cruise* acted in (Instructions)

Retrieve all movies that *Tom Cruise* acted in and return their titles.

Hint: Use a WHERE clause.

Hint: You must specify a variable for the *Person* and *Movie* nodes as they are used in the WHERE and RETURN clauses.

Exercise 4.1: Retrieve all movies that *Tom Cruise* acted in (Solution)

Retrieve all movies that *Tom Cruise* acted in and return their titles.

```
MATCH (a:Person)-[:ACTED_IN]->(m:Movie)
WHERE a.name = 'Tom Cruise'
RETURN m.title as Movie
```

The result returned should be:

```
$ MATCH (a:Person)-[:ACTED_IN]->(m:Movie) WHERE a.name = 'Tom Cruise' RETURN m.title as Movie
```

Table	Movie
	"Jerry Maguire"
	"Top Gun"
	"A Few Good Men"

Exercise 4.2: Retrieve all people that were born in the 70's (Instructions)

Retrieve all people that were born in the 70's and return their names and year born.

Exercise 4.2: Retrieve all people that were born in the 70's (Solution)

Retrieve all people that were born in the 70's and return their names and year born.

```
MATCH (a:Person)
WHERE a.born >= 1970 AND a.born < 1980
RETURN a.name as Name, a.born as 'Year Born'
```

The result returned should be:

```
$ MATCH (a:Person) WHERE a.born >= 1970 AND a.born < 1980 RETURN a.name as Name, a.born as 'Year Born'
```

Name	Year Born
"Enril Eifrem"	1978
"Charlize Theron"	1975
"Noah Wyle"	1971
"Jerry O'Connell"	1974
"Jay Mohr"	1970
"Regina King"	1971
"River Phoenix"	1970
"Corey Feldman"	1971
"Wil Wheaton"	1972
"Ethan Hawke"	1970
"Rick Yune"	1971
"Dave Chappelle"	1973
"Liv Tyler"	1977
"Brooke Langton"	1970
"Christian Bale"	1974
"Audrey Tautou"	1976

Started streaming 17 records after 1 ms and completed after 1 ms.

Exercise 4.3: Retrieve the actors who acted in the movie *The Matrix* who were born after 1960 (Instructions)

Retrieve the actors who acted in the movie *The Matrix* who were born after 1960, and return their names and year born.

Exercise 4.3: Retrieve the actors who acted in the movie *The Matrix* who were born after 1960 (Solution)

Retrieve the actors who acted in the movie *The Matrix* who were born after 1960, and return their names and year born.

```
MATCH (a:Person)-[:ACTED_IN]->(m:Movie)
WHERE a.born > 1960 AND m.title = 'The Matrix'
RETURN a.name as Name, a.born as 'Year Born'
```

The result returned should be:

A screenshot of the Neo4j browser interface. On the left, there are navigation icons for Table, Text, and Code. The main area shows a table with two columns: 'Name' and 'Year Born'. The 'Name' column lists four actors: "Emil Eifrem", "Laurence Fishburne", "Carrie-Anne Moss", and "Keanu Reeves". The 'Year Born' column lists their birth years: 1978, 1961, 1967, and 1964 respectively.

Name	Year Born
"Emil Eifrem"	1978
"Laurence Fishburne"	1961
"Carrie-Anne Moss"	1967
"Keanu Reeves"	1964

Exercise 4.4: Retrieve all movies by testing the node label and a property (Instructions)

Retrieve all movies released in 2000 by testing the node label and the released property, returning the movie titles.

Exercise 4.4: Retrieve all movies by testing the node label and a property (Solution)

Retrieve all movies released in 2000 by testing the node label and the released property, returning the movie titles.

```
MATCH (m)
WHERE m:Movie AND m.released = 2000
RETURN m.title
```

The result returned should be:

```
$ MATCH (m) WHERE m:Movie AND m.released = 2000 RETURN m.title
```

A screenshot of the Neo4j browser interface. On the left, there are navigation icons for Table, Text, and Code. The main area shows a table with one column labeled 'm.title'. It lists three movie titles: "Jerry Maguire", "The Replacements", and "Cast Away".

m.title
"Jerry Maguire"
"The Replacements"
"Cast Away"

Exercise 4.5: Retrieve all people that wrote movies by testing the relationship between two nodes (Instructions)

Retrieve all people that wrote movies by testing the relationship between two nodes, returning the names of the people and the titles of the movies.

Exercise 4.5: Retrieve all people that wrote movies by testing the relationship between two nodes (Solution)

Retrieve all people that wrote movies by testing the relationship between two nodes, returning the names of the people and the titles of the movies.

```
MATCH (a)-[rel]->(m)
WHERE a:Person AND type(rel) = 'WROTE' AND m:Movie
RETURN a.name as Name, m.title as Movie
```

The result returned should be:

```
$ MATCH (a)-[rel]->(m) WHERE a:Person AND type(rel) = 'WROTE' AND m:Movie RETURN a.name as Name, m.title as Movie
```

Name	Movie
"Aaron Sorkin"	"A Few Good Men"
"Jim Cash"	"Top Gun"
"Cameron Crowe"	"Jerry Maguire"
"Nora Ephron"	"When Harry Met Sally"
"David Mitchell"	"Cloud Atlas"
"Lilly Wachowski"	"V for Vendetta"
"Lana Wachowski"	"V for Vendetta"
"Lana Wachowski"	"Speed Racer"
"Lily Wachowski"	"Speed Racer"
"Nancy Meyers"	"Something's Gotta Give"

Started streaming 10 records in less than 1 ms and completed after 1 ms.

Exercise 4.6: Retrieve all people in the graph that do not have a property (Instructions)

You will write Cypher queries using a `WHERE` clause to test existence.

Retrieve all people in the graph that do not have a *born* property, returning their names.

Exercise 4.6: Retrieve all people in the graph that do not have a property (Solution)

Retrieve all people in the graph that do not have a *born* property, returning their names.

```
MATCH (a:Person)
WHERE NOT exists(a.born)
RETURN a.name as Name
```

The result returned should be:

```
$ MATCH (a:Person) WHERE NOT exists(a.born) RETURN a.name as Name
```

Name
"Naomie Harris"
"Paul Blythe"
"Angela Scope"
"Jessica Thompson"
"James Thompson"

Exercise 4.7: Retrieve all people related to movies where the relationship has a property (Instructions)

You will write Cypher queries using a `WHERE` clause to test existence.

Retrieve all people related to movies where the relationship has the *rating* property, then return their name, movie title, and the rating.

Exercise 4.7: Retrieve all people related to movies where the relationship has a property (Solution)

Retrieve all people related to movies where the relationship has the *rating* property, then return their name, movie title, and the rating.

```
MATCH (a:Person)-[rel]->(m:Movie)
WHERE exists(rel.rating)
RETURN a.name as Name, m.title as Movie, rel.rating as Rating
```

The result returned should be:

A screenshot of the Neo4j browser interface. On the left, there are three tabs: 'Table' (selected), 'Text', and 'Code'. The main area shows a table with three columns: 'Name', 'Movie', and 'Rating'. The data consists of ten rows, each representing a relationship between a person and a movie, including their rating. At the bottom of the table, a message indicates the query started streaming 9 records after 1 ms and completed after 1 ms.

Name	Movie	Rating
"Jessica Thompson"	"Jerry Maguire"	92
"Angela Scope"	"The Replacements"	62
"James Thompson"	"The Replacements"	100
"Jessica Thompson"	"The Replacements"	65
"Jessica Thompson"	"The Birdcage"	45
"Jessica Thompson"	"Unforgiven"	85
"Jessica Thompson"	"Cloud Atlas"	95
"Jessica Thompson"	"The Da Vinci Code"	68
"James Thompson"	"The Da Vinci Code"	65

Started streaming 9 records after 1 ms and completed after 1 ms.

Exercise 4.8: Retrieve all actors whose name begins with *James* (Instructions)

Next you will practice queries that test string properties.

Retrieve all actors whose name begins with *James*, returning their names.

Exercise 4.8: Retrieve all actors whose name begins with *James* (Solution)

Retrieve all actors whose name begins with *James*, returning their names.

```
MATCH (a:Person)-[:ACTED_IN]->(:Movie)
WHERE a.name STARTS WITH 'James'
RETURN a.name
```

The result returned should be:

A screenshot of the Neo4j browser interface. On the left, there are three tabs: 'Table' (selected), 'Text', and 'Code'. The main area shows a table with one column: 'a.name'. The data consists of three rows, each representing an actor's name that starts with 'James'.

a.name
"James Marshall"
"James Cromwell"
"James Cromwell"

The result returned should be:

Exercise 4.9: Retrieve all all *REVIEW* relationships from the graph with filtered results (Instructions)

Retrieve all all *REVIEW* relationships from the graph where the *summary* of the review contains the string *fun*, returning the movie title reviewed and the rating and summary of the relationship.

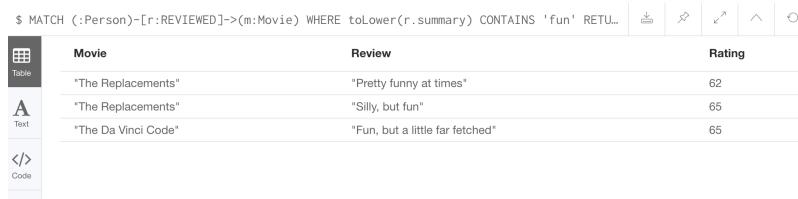
Hint: You do not know what case the *fun* string will be in the summary text.

Exercise 4.9: Retrieve all all *REVIEW* relationships from the graph with filtered results (Solution)

Retrieve all all *REVIEW* relationships from the graph where the *summary* of the review contains the string *fun*, returning the movie title reviewed and the rating and summary of the relationship.

```
MATCH (:Person)-[r:REVIEWED]->(m:Movie)
WHERE toLower(r.summary) CONTAINS 'fun'
RETURN m.title as Movie, r.summary as Review, r.rating as Rating
```

The result returned should be:



A screenshot of a Neo4j browser interface. On the left, there are navigation buttons for Table, Text, and Code. The main area shows a table with three columns: Movie, Review, and Rating. The data is as follows:

Movie	Review	Rating
"The Replacements"	"Pretty funny at times"	62
"The Replacements"	"Silly, but fun"	65
"The Da Vinci Code"	"Fun, but a little far fetched"	65

Exercise 4.9: Retrieve all all *REVIEW* relationships from the graph where the *summary* of the review contains the string *fun* (Taking it further - optional)

- Retrieve all movies in the database that have *love* in their *tagline* and return the movie titles
- Retrieve movies in the database, specifying a regular expression for the content of the *tagline*.

Hint: retrieve all of the taglines of the movies to see what you can search for.

Exercise 4.10: Retrieve all people who have produced a movie, but have not directed a movie (Instructions)

Next, you will write queries that test patterns.

Retrieve all people who have produced a movie, but have not directed a movie, returning their names and the movie titles.

Exercise 4.10: Retrieve all people who have produced a movie, but have not directed a movie (Solution)

Retrieve all people who have produced a movie, but have not directed a movie, returning their names and the movie titles.

```
MATCH (a:Person)-[:PRODUCED]->(m:Movie)
WHERE NOT ((a)-[:DIRECTED]->(:Movie))
RETURN a.name, m.title
```

The result returned should be:

\$ MATCH (a:Person)-[:PRODUCED]->(m:Movie) WHERE NOT ((a)-[:DIRECTED]->(m)) RE...

a.name	m.title
"Joel Silver"	"The Matrix"
"Joel Silver"	"The Matrix Reloaded"
"Joel Silver"	"The Matrix Revolutions"
"Stefan Arndt"	"Cloud Atlas"
"Joel Silver"	"V for Vendetta"
"Joel Silver"	"Speed Racer"
"Joel Silver"	"Ninja Assassin"

Started streaming 7 records after 1 ms and completed after 5 ms.

Exercise 4.11: Retrieve the movies and their actors where one of the actors also directed the movie (Instructions)

Retrieve the movies and their actors where one of the actors also directed the movie, returning the actors names, the director's name, and the movie title.

Exercise 4.11: Retrieve the movies and their actors where one of the actors also directed the movie (Solution)

Retrieve the movies and their actors where one of the actors also directed the movie, returning the actors names, the director's name, and the movie title.

```
MATCH (a1:Person)-[:ACTED_IN]->(m:Movie)<-[ACTED_IN]-(a2:Person)
WHERE exists( (a2)-[:DIRECTED]->(m) )
RETURN a1.name as Actor, a2.name as 'Actor/Director', m.title as Movie
```

The result returned should be:

\$ MATCH (a1:Person)-[:ACTED_IN]->(m:Movie)<-[ACTED_IN]-(a2:Person) WHERE exists((a2)...)

Actor	Actor/Director	Movie
"Liv Tyler"	"Tom Hanks"	"That Thing You Do"
"Charlize Theron"	"Tom Hanks"	"That Thing You Do"
"Gene Hackman"	"Clint Eastwood"	"Unforgiven"
"Richard Harris"	"Clint Eastwood"	"Unforgiven"
"John C. Reilly"	"Danny DeVito"	"Hoffa"
"J.T. Walsh"	"Danny DeVito"	"Hoffa"
"Jack Nicholson"	"Danny DeVito"	"Hoffa"

Started streaming 7 records after 1 ms and completed after 3 ms.

Exercise 4.12: Retrieve all movies that were released in a set of years (Instructions)

Next you will perform queries using lists.

Retrieve all movies that were released in the years 2000, 2004, and 2008, returning their titles and release years.

Exercise 4.12: Retrieve all movies that were released in a set of years (Solution)

Retrieve all movies that were released in the years 2000, 2004, and 2008, returning their titles and release years.

```
MATCH (m:Movie)
WHERE m.released in [2000, 2004, 2008]
```

```
RETURN m.title, m.released
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.released in [2000, 2004, 2008] RETURN m.title, m.released
```

m.title	m.released
"Jerry Maguire"	2000
"The Replacements"	2000
"Speed Racer"	2008
"Frost/Nixon"	2008
"Cast Away"	2000
"The Polar Express"	2004

Exercise 4.13: Retrieve the movies that have an actor's role that is the name of the movie (Instructions)

Retrieve the movies that have an actor's role that is the name of the movie, return the movie title and the role.

Exercise 4.13: Retrieve the movies that have an actor's role that is the name of the movie (Solution)

Retrieve the movies that have an actor's role that is the name of the movie, return the movie title and the role.

```
MATCH (a:Person)-[r:ACTED_IN]->(m:Movie)
WHERE m.title in r.roles
RETURN m.title as Movie, a.name as Actor
```

The result returned should be:

```
$ MATCH (a:Person)-[r:ACTED_IN]->(m:Movie) WHERE m.title in r.roles RETURN m.title a...
```

Movie	Actor
"Jerry Maguire"	"Tom Cruise"
"Johnny Mnemonic"	"Keanu Reeves"
"Speed Racer"	"Emile Hirsch"
"Hoffa"	"Jack Nicholson"

Exercise 4: Filtering queries using the WHERE clause (Summary)

In this exercise, you wrote queries that filter the results that are returned using a `WHERE` clause. First, you wrote some queries that filter based upon property values. Then you specified node labels in the filter. Next, you tested whether a property exists. Then you filtered queries based upon string comparisons. Next, you wrote queries that filter based upon patterns in the graph. Finally, you tested if property values are in a list.

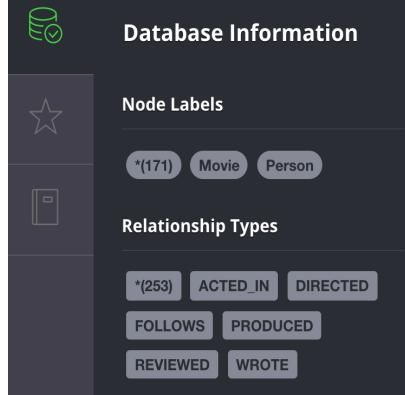
Continue to Exercise 5

Exercise 5

Exercise 5: Controlling query processing (Preparations)

Make sure you have the Movie database, which contains 171 nodes and 253 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrix),
(LillyW)-[:DIRECTED]>(TheMatrix),
(LanaW)-[:DIRECTED]>(TheMatrix),
(JoelS)-[:PRODUCED]>(TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>(TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixReloaded),
(LillyW)-[:DIRECTED]>(TheMatrixReloaded),
(LanaW)-[:DIRECTED]>(TheMatrixReloaded),
(JoelS)-[:PRODUCED]>(TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>(TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>(TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>(TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})

CREATE (JackN:Person {name:'Jack Nicholson', born:1937})

CREATE (DemiM:Person {name:'Demi Moore', born:1962})

CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})

CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})

CREATE (NoahW:Person {name:'Noah Wyle', born:1971})

CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})

CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})

CREATE (JTW:Person {name:'J.T. Walsh', born:1943})

CREATE (JamesM:Person {name:'James Marshall', born:1967})

CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})

CREATE (RobR:Person {name:'Rob Reiner', born:1947})

CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})

CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),

(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup']}]->(AFewGoodMen),

(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway']}]->(AFewGoodMen),

(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross']}]->(AFewGoodMen),

(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick']}]->(AFewGoodMen),

(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes']}]->(AFewGoodMen),

(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker']}]->(AFewGoodMen),

(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg']}]->(AFewGoodMen),

(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson']}]->(AFewGoodMen),

(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey']}]->(AFewGoodMen),

(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone']}]->(AFewGoodMen),

(AaronS)-[:ACTED_IN {roles:'[Man in Bar']}]->(AFewGoodMen),

(RobR)-[:DIRECTED]->(AFewGoodMen),

(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})

CREATE (ValK:Person {name:'Val Kilmer', born:1959})

CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})

CREATE (TomS:Person {name:'Tom Skerritt', born:1933})

CREATE (MegR:Person {name:'Meg Ryan', born:1961})

CREATE (TonyS:Person {name:'Tony Scott', born:1944})

CREATE (JimC:Person {name:'Jim Cash', born:1941})

CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick']}]->(TopGun),

(KellyM)-[:ACTED_IN {roles:'[Charlie']}]->(TopGun),

(ValK)-[:ACTED_IN {roles:'[Iceman']}]->(TopGun),

(AnthonyE)-[:ACTED_IN {roles:'[Goose']}]->(TopGun),

(TomS)-[:ACTED_IN {roles:'[Viper']}]->(TopGun),

(MegR)-[:ACTED_IN {roles:'[Carole']}]->(TopGun),

(TonyS)-[:DIRECTED]->(TopGun),

(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})

CREATE (KellyP:Person {name:'Kelly Preston', born:1962})

CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})

CREATE (JayM:Person {name:'Jay Mohr', born:1970})

CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})

CREATE (ReginaK:Person {name:'Regina King', born:1971})

CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})

CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})

CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire']}]->(JerryMaguire),

(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell']}]->(JerryMaguire),

(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd']}]->(JerryMaguire),

(KellyP)-[:ACTED_IN {roles:'[Avery Bishop']}]->(JerryMaguire),

(JerryO)-[:ACTED_IN {roles:'[Frank Cushman']}]->(JerryMaguire),

(JayM)-[:ACTED_IN {roles:'[Bob Sugar']}]->(JerryMaguire),

(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd']}]->(JerryMaguire),

(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell']}]->(JerryMaguire),

(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd']}]->(JerryMaguire),

(CameronC)-[:DIRECTED]->(JerryMaguire),

(CameronC)-[:PRODUCED]->(JerryMaguire),

(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
 (MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})
 CREATE (DianeK:Person {name:'Diane Keaton', born:1946})
 CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})
 CREATE
 (JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
 (DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
 (Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
 (NancyM)-[:DIRECTED]->(SomethingsGottaGive),
 (NancyM)-[:PRODUCED]->(SomethingsGottaGive),
 (NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})
 CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})
 CREATE
 (Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
 (OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
 (ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})
 CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
 (JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
 (PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
 (MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
 (RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})
 CREATE (Madonna:Person {name:'Madonna', born:1954})
 CREATE (GeenaD:Person {name:'Geena Davis', born:1956})
 CREATE (LoriP:Person {name:'Lori Petty', born:1963})
 CREATE (PennyM:Person {name:'Penny Marshall', born:1943})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
 (GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
 (LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
 (RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
 (Madonna)-[:ACTED_IN {roles:'["All the Way", Mae Mordabito]'}]->(ALeagueofTheirOwn),
 (BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
 (PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})
 CREATE (AngelaScope:Person {name:'Angela Scope'})
 CREATE (JessicaThompson:Person {name:'Jessica Thompson'})
 CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE
 (JamesThompson)-[:FOLLOWS]->(JessicaThompson),
 (AngelaScope)-[:FOLLOWS]->(JessicaThompson),
 (PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE
 (JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
 (JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
 (JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
 (AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
 (JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
 (JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),
 (JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
 (JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
 (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire)

Exercise 5: Controlling query processing (Overview)

In the previous exercise, you have filtered your queries using the WHERE clause of a Cypher query.

In this exercise, you will write queries that filter the results that are returned using a `WHERE` clause as well as performing some additional processing during the query. First, you will write a query where multiple patterns are required. Then you write a query that uses a variable length pattern to retrieve data. Next, you will collect results during a query to build a list. Finally, you count retrievals during the query.

- **Exercise 5.1:** Retrieve data using multiple `MATCH` patterns.
- **Exercise 5.2:** Retrieve particular nodes that have a relationship.
- **Exercise 5.3:** Modify the query to retrieve nodes that are exactly three hops away.
- **Exercise 5.4:** Modify the query to retrieve nodes that are one and two hops away.
- **Exercise 5.5:** Modify the query to retrieve particular nodes that are connected no matter how many hops are required.
- **Exercise 5.6:** Retrieve nodes by collecting a list.
- **Exercise 5.7:** Retrieve nodes as lists and return data associated with the corresponding lists.
- **Exercise 5.8:** Retrieve nodes and their relationships as lists.

Go to the next page to start this exercise.

Exercise 5.1: Retrieve data using multiple `MATCH` patterns (Instructions)

Write a Cypher query that retrieves all movies that *Gene Hackman* has acted it, along with the directors of the movies. In addition, retrieve the actors that acted in the same movies as *Gene Hackman*. Return the name of the movie, the name of the director, and the names of actors that worked with *Gene Hackman*.

Exercise 5.1: Retrieve data using multiple `MATCH` patterns (Solution)

Write a Cypher query that retrieves all movies that *Gene Hackman* has acted it, along with the directors of the movies. In addition, retrieve the actors that acted in the same movies as *Gene Hackman*. Return the name of the movie, the name of the director, and the names of actors that worked with *Gene Hackman*.

```
MATCH (a:Person)-[:ACTED_IN]->(m:Movie)<-[DIRECTED]-(d:Person),
      (a2:Person)-[:ACTED_IN]->(m)
WHERE a.name = 'Gene Hackman'
RETURN m.title AS movie, d.name AS director, a2.name AS `co-actors`
```

The result returned should be:

movie	director	co-actors
"Unforgiven"	"Clint Eastwood"	"Richard Harris"
"Unforgiven"	"Clint Eastwood"	"Clint Eastwood"
"The Birdcage"	"Mike Nichols"	"Robin Williams"
"The Birdcage"	"Mike Nichols"	"Nathan Lane"
"The Replacements"	"Howard Deutch"	"Keanu Reeves"
"The Replacements"	"Howard Deutch"	"Brooke Langton"
"The Replacements"	"Howard Deutch"	"Orlando Jones"

Started streaming 7 records after 1 ms and completed after 2 ms.

Exercise 5.2: Retrieve particular nodes that have a relationship (Instructions)

Next, you will perform queries for data that is a variable number of hops away.

Write this Cypher query to explore the graph engine's behavior with varying length paths for the *FOLLOWS* relationship in the *Movie* graph:

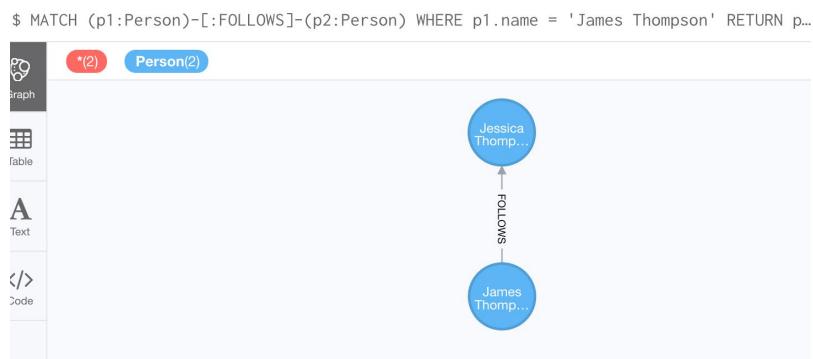
Retrieve all nodes that the person named *James Thompson* directly has the *FOLLOWS* relationship in either direction.

Exercise 5.2: Retrieve particular nodes that have a relationship (Solution)

Retrieve all nodes that the person named *James Thompson* directly has the *FOLLOWS* relationship in either direction.

```
MATCH (p1:Person)-[:FOLLOWS]-(p2:Person)
WHERE p1.name = 'James Thompson'
RETURN p1, p2
```

The result returned should be:



Exercise 5.3: Modify the query to retrieve nodes that are exactly three hops away (Instructions)

Modify the query to retrieve nodes that are exactly three hops away.

Exercise 5.3: Modify the query to retrieve nodes that are exactly three hops away (Solution)

Modify the query to retrieve nodes that are exactly three hops away.

```
MATCH (p1:Person)-[:FOLLOWS*3]-(p2:Person)
WHERE p1.name = 'James Thompson'
RETURN p1, p2
```

The result returned should be:

```
$ MATCH (p1:Person)-[:FOLLOWS*3]-(p2:Person) WHERE p1.name = 'James Thompson' RETURN...
```



Notice here that the relationships between the nodes are not displayed because *James Thompson* is not connected to *Paul Blythe*.

Exercise 5.4: Modify the query to retrieve nodes that are one and two hops away (Instructions)

Modify the query to retrieve nodes that are one and two hops away.

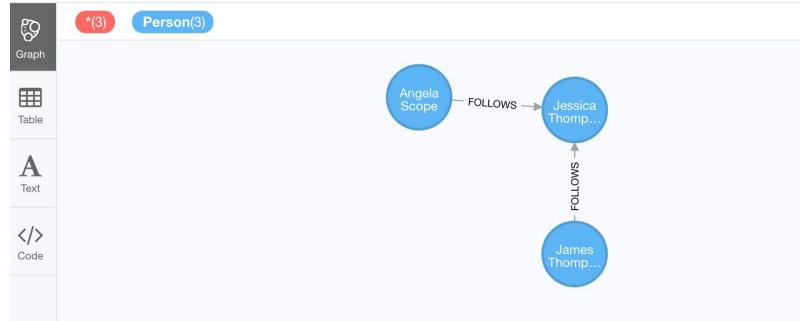
Exercise 5.4: Modify the query to retrieve nodes that are one and two hops away (Solution)

Modify the query to retrieve nodes that are one and two hops away.

```
MATCH (p1:Person)-[:FOLLOWS*1..2]-(p2:Person)
WHERE p1.name = 'James Thompson'
RETURN p1, p2
```

The result returned should be:

```
$ MATCH (p1:Person)-[:FOLLOWS*1..2]-(p2:Person) WHERE p1.name = 'James Thompson' RET...
```



Exercise 5.5: Modify the query to retrieve particular nodes that are connected no matter how many hops are required (Instructions)

Modify the query to retrieve all nodes that are connected to *James Thompson* by a *Follows* relationship no matter how many hops are required.

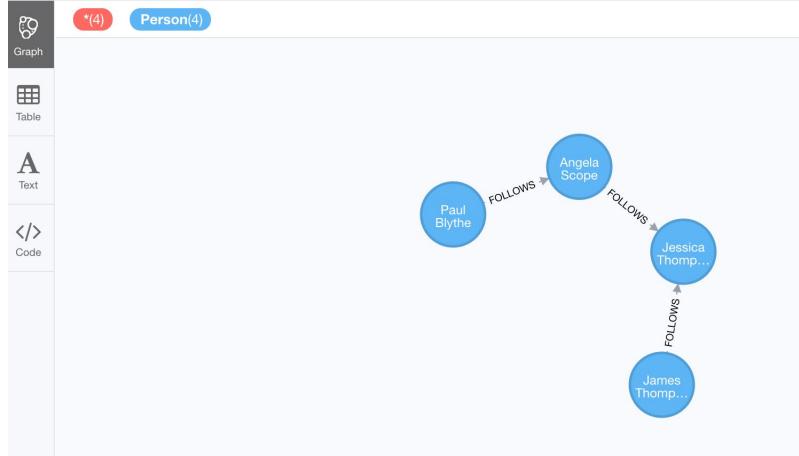
Exercise 5.5: Modify the query to retrieve particular nodes that are connected no matter how many hops are required (Solution)

Modify the query to retrieve all nodes that are connected to *James Thompson* by a *Follows* relationship no matter how many hops are required.

```
MATCH (p1:Person)-[:FOLLOWS*]-(p2:Person)
WHERE p1.name = 'James Thompson'
RETURN p1, p2
```

The result returned should be:

```
$ MATCH (p1:Person)-[:FOLLOWS*]-(p2:Person) WHERE p1.name = 'James Thompson' RETURN ...
```



Exercise 5.6: Retrieve nodes by collecting a list (Instructions)

Next, you will perform queries where you collect the results into a list.

Retrieve actors and the movies they have acted in, returning each actor's name and the list of movies they acted in.

Exercise 5.6: Retrieve nodes by collecting a list (Solution)

Retrieve actors and the movies they have acted in, returning each actor's name and the list of movies they acted in.

```
MATCH (p:Person)-[:ACTED_IN]->(m:Movie)
RETURN p.name as actor, collect(m.title) AS 'movie list'
```

The result returned should be:

```
$ MATCH (p:Person)-[:ACTED_IN]->(m:Movie) RETURN p.name as actor, collect(m.title) AS `movie list`
```

actor	movie list
"River Phoenix"	[{"Stand By Me"]
"Halle Berry"	[{"Cloud Atlas"]
"Ben Miles"	[{"V for Vendetta", "Speed Racer", "Ninja Assassin"]
"Ethan Hawke"	[{"Snow Falling on Cedars"]
"Geena Davis"	[{"A League of Their Own"]
"Bonnie Hunt"	[{"Jerry Maguire", "The Green Mile"]
"John Goodman"	[{"Speed Racer"]
"Gene Hackman"	[{"The Replacements", "The Birdcage", "Unforgiven"]
"Carrie Fisher"	[{"When Harry Met Sally"]
"Rick Yune"	[{"Snow Falling on Cedars", "Ninja Assassin"]

Started streaming 102 records after 2 ms and completed after 2 ms.

Exercise 5.7: Retrieve all movies that *Tom Cruise* has acted in and the co-actors that acted in the same movie by collecting a list (Instructions)

Retrieve all movies that *Tom Cruise* has acted in and the co-actors that acted in the same movie, returning the movie title and the list of co-actors that *Tom Cruise* worked with.

Exercise 5.7: Retrieve all movies that *Tom Cruise* has acted in and the co-actors that acted in the same movie by collecting a list (Solution)

Retrieve all movies that *Tom Cruise* has acted in and the co-actors that acted in the same movie, returning the movie title and the list of co-actors that *Tom Cruise* worked with.

```
MATCH (p:Person)-[:ACTED_IN]->(m:Movie)<-[ACTED_IN]-(p2:Person)
WHERE p.name = 'Tom Cruise'
RETURN m.title as movie, collect(p2.name) AS `co-actors`
```

The result returned should be:

movie	co-actors
"A Few Good Men"	[{"Aaron Sorkin", "Christopher Guest", "Kevin Pollak", "Cuba Gooding Jr.", "James Marshall", "J.T. Walsh", "Kiefer Sutherland", "Noah Wyle", "Demi Moore", "Kevin Bacon", "Jack Nicholson"]
"Jerry Maguire"	[{"Jonathan Lipnicki", "Jerry O'Connell", "Jay Mohr", "Bonnie Hunt", "Regina King", "Cuba Gooding Jr.", "Renee Zellweger", "Kelly Preston"]
"Top Gun"	[{"Meg Ryan", "Tom Skerritt", "Kelly McGillis", "Anthony Edwards", "Val Kilmer"]

Started streaming 3 records after 2 ms and completed after 2 ms.

Exercise 5.8: Retrieve nodes as lists and return data associated with the corresponding lists (Instructions)

Next, you will count results retrieved.

Retrieve all people who reviewed a movie, returning the list of reviewers and how many reviewers reviewed the movie.

Exercise 5.8: Retrieve nodes as lists and return data associated with the corresponding lists (Solution)

Retrieve all people who reviewed a movie, returning the list of reviewers and how many reviewers reviewed the movie.

```
MATCH (p:Person)-[:REVIEWED]->(m:Movie)
RETURN m.title as movie, count(p) as numReviews, collect(p.name) as reviewers
```

The result returned should be:

\$ MATCH (p:Person)-[:REVIEWED]->(m:Movie) RETURN m.title as movie, count(p) as numReviews, collect(..

 Table

 Text

 Code

movie	numReviews	reviewers
"Unforgiven"	1	["Jessica Thompson"]
"The Replacements"	3	["Jessica Thompson", "Angela Scope", "James Thompson"]
"The Birdcage"	1	["Jessica Thompson"]
"Jerry Maguire"	1	["Jessica Thompson"]
"Cloud Atlas"	1	["Jessica Thompson"]
"The Da Vinci Code"	2	["James Thompson", "Jessica Thompson"]

Exercise 5.9: Retrieve nodes and their relationships as list (Instructions)

Retrieve all directors, their movies, and people who acted in the movies, returning the name of the director, the number of actors the director has worked with, and the list of actors.

Exercise 5.9: Retrieve nodes and their relationships as list (Solution)

Retrieve all directors, their movies, and people who acted in the movies, returning the name of the director, the number of actors the director has worked with, and the list of actors.

```

MATCH (d:Person)-[:DIRECTED]->(m:Movie)<-[.ACTED_IN]-(a:Person)
RETURN d.name AS director, count(a) AS 'number actors', collect(a.name) AS 'actors worked with'

```

The result returned should be:

Exercise 5: Controlling query processing (Summary)

In this exercise, you wrote queries that filtered the results that are returned using a `WHERE` clause as well as performing some additional processing during the query. First, you wrote a query where multiple patterns are required. Then you wrote a query that uses a variable length pattern to retrieve data. Next, you collected results during a query to build a list. Finally, you counted retrievals during the query.

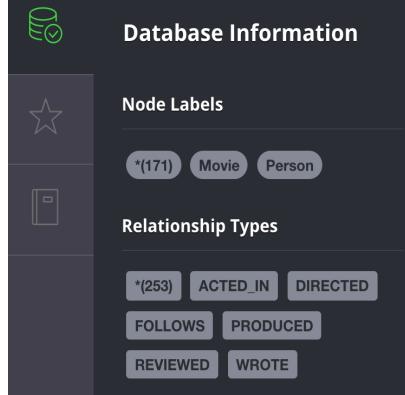
Continue to Exercise 6

Exercise 6

Exercise 6: Creating Nodes (Preparations)

Make sure you have the Movie database, which contains 171 nodes and 253 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>((TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>((TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>((TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>((TheMatrix),
(LillyW)-[:DIRECTED]>((TheMatrix),
(LanaW)-[:DIRECTED]>((TheMatrix),
(JoelS)-[:PRODUCED]>((TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>((TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>((TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>((TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>((TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>((TheMatrixReloaded),
(LillyW)-[:DIRECTED]>((TheMatrixReloaded),
(LanaW)-[:DIRECTED]>((TheMatrixReloaded),
(JoelS)-[:PRODUCED]>((TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>((TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>((TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>((TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>((TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>((TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>((TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>((TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})
CREATE (JackN:Person {name:'Jack Nicholson', born:1937})
CREATE (DemiM:Person {name:'Demi Moore', born:1962})
CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})
CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})
CREATE (NoahW:Person {name:'Noah Wyle', born:1971})
CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})
CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})
CREATE (JTW:Person {name:'J.T. Walsh', born:1943})
CREATE (JamesM:Person {name:'James Marshall', born:1967})
CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})
CREATE (RobR:Person {name:'Rob Reiner', born:1947})
CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})
CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),
(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup']}]->(AFewGoodMen),
(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway']}]->(AFewGoodMen),
(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross']}]->(AFewGoodMen),
(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick']}]->(AFewGoodMen),
(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes']}]->(AFewGoodMen),
(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker']}]->(AFewGoodMen),
(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg']}]->(AFewGoodMen),
(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson']}]->(AFewGoodMen),
(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey']}]->(AFewGoodMen),
(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone']}]->(AFewGoodMen),
(AaronS)-[:ACTED_IN {roles:'[Man in Bar']}]->(AFewGoodMen),
(RobR)-[:DIRECTED]->(AFewGoodMen),
(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})
CREATE (ValK:Person {name:'Val Kilmer', born:1959})
CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})
CREATE (TomS:Person {name:'Tom Skerritt', born:1933})
CREATE (MegR:Person {name:'Meg Ryan', born:1961})
CREATE (TonyS:Person {name:'Tony Scott', born:1944})
CREATE (JimC:Person {name:'Jim Cash', born:1941})
CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick']}]->(TopGun),
(KellyM)-[:ACTED_IN {roles:'[Charlie']}]->(TopGun),
(ValK)-[:ACTED_IN {roles:'[Iceman']}]->(TopGun),
(AnthonyE)-[:ACTED_IN {roles:'[Goose']}]->(TopGun),
(TomS)-[:ACTED_IN {roles:'[Viper']}]->(TopGun),
(MegR)-[:ACTED_IN {roles:'[Carole']}]->(TopGun),
(TonyS)-[:DIRECTED]->(TopGun),
(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})
CREATE (KellyP:Person {name:'Kelly Preston', born:1962})
CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})
CREATE (JayM:Person {name:'Jay Mohr', born:1970})
CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})
CREATE (ReginaK:Person {name:'Regina King', born:1971})
CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})
CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})
CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire']}]->(JerryMaguire),
(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell']}]->(JerryMaguire),
(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd']}]->(JerryMaguire),
(KellyP)-[:ACTED_IN {roles:'[Avery Bishop']}]->(JerryMaguire),
(JerryO)-[:ACTED_IN {roles:'[Frank Cushman']}]->(JerryMaguire),
(JayM)-[:ACTED_IN {roles:'[Bob Sugar']}]->(JerryMaguire),
(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd']}]->(JerryMaguire),
(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell']}]->(JerryMaguire),
(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd']}]->(JerryMaguire),
(CameronC)-[:DIRECTED]->(JerryMaguire),
(CameronC)-[:PRODUCED]->(JerryMaguire),
(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
 (MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})
 CREATE (DianeK:Person {name:'Diane Keaton', born:1946})
 CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})
 CREATE
 (JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
 (DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
 (Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
 (NancyM)-[:DIRECTED]->(SomethingsGottaGive),
 (NancyM)-[:PRODUCED]->(SomethingsGottaGive),
 (NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})
 CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})
 CREATE
 (Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
 (OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
 (ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})
 CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
 (JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
 (PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
 (MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
 (RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})
 CREATE (Madonna:Person {name:'Madonna', born:1954})
 CREATE (GeenaD:Person {name:'Geena Davis', born:1956})
 CREATE (LoriP:Person {name:'Lori Petty', born:1963})
 CREATE (PennyM:Person {name:'Penny Marshall', born:1943})
 CREATE
 (TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
 (GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
 (LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
 (RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
 (Madonna)-[:ACTED_IN {roles:'["All the Way", Mae Mordabito]'}]->(ALeagueofTheirOwn),
 (BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
 (PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})
 CREATE (AngelaScope:Person {name:'Angela Scope'})
 CREATE (JessicaThompson:Person {name:'Jessica Thompson'})
 CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE
 (JamesThompson)-[:FOLLOWS]->(JessicaThompson),
 (AngelaScope)-[:FOLLOWS]->(JessicaThompson),
 (PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE
 (JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
 (JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
 (JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
 (AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
 (JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
 (JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),
 (JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
 (JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
 (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire)

Exercise 6: Creating Nodes (Overview)

In the previous exercises, you have gained experience with Cypher queries.

In this exercise, you will write Cypher statements to create nodes. Then you will write Cypher statements to add and remove labels for nodes. Next, you will use Cypher to add properties to nodes. Finally, you will write Cypher statements to remove properties from nodes.

- **Exercise 6.1:** Create a *Movie* node.
- **Exercise 6.2:** Retrieve the newly-created node.
- **Exercise 6.3:** Create a *Person* node.
- **Exercise 6.4:** Retrieve the newly-created node.
- **Exercise 6.5:** Add a label to a node.
- **Exercise 6.6:** Retrieve the node using the new label.
- **Exercise 6.7:** Add the *Female* label to selected nodes.
- **Exercise 6.8:** Retrieve all *Female* nodes.
- **Exercise 6.9:** Remove the *Female* label from the nodes that have this label.
- **Exercise 6.10:** View the current schema of the graph.
- **Exercise 6.11:** Add properties to a movie.
- **Exercise 6.12:** Retrieve an *OlderMovie* node to confirm the label and properties.
- **Exercise 6.13:** Add properties to the person, *Robin Wright*.
- **Exercise 6.14:** Retrieve an updated *Person* node.
- **Exercise 6.15:** Remove a property from a *Movie* node.
- **Exercise 6.16:** Retrieve the node to confirm that the property has been removed.
- **Exercise 6.17:** Remove a property from a *Person* node.
- **Exercise 6.18:** Retrieve the node to confirm that the property has been removed.

Go to the next page to start this exercise.

Exercise 6.1: Create a *Movie* node (Instructions)

Create a *Movie* node for the movie with the *title*, *Forrest Gump*.

Exercise 6.1: Create a *Movie* node (Solution)

Create a *Movie* node for the movie with the *title*, *Forrest Gump*.

```
CREATE (:Movie {title:'Forrest Gump'})
```

The result returned should be:

```
$ CREATE (:Movie {title: 'Forrest Gump'})
```



Added 1 label, created 1 node, set 1 property, completed after 1 ms.



Exercise 6.2: Retrieve the newly-created node (Instructions)

Retrieve the node you just created by its *title*.

Exercise 6.2: Retrieve the newly-created node (Solution)

Retrieve the node you just created by its *title*.

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN m
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' RETURN m
```

The screenshot shows the Neo4j browser interface. On the left, there is a vertical sidebar with icons for Graph (selected), Table, Text, and Code. The main area displays a single node labeled "Forrest Gump" in a green circle. At the bottom, there is a status bar with the text "Movie <id>: 741 title: Forrest Gump". Above the status bar, there are two buttons: a red one labeled "(1)" and a green one labeled "Movie(1)".

Note: The value for the *id* property for the newly created node may be different for your graph. In this screen shot, it is 741.

Exercise 6.3: Create a *Person* node (Instructions)

Create a *Person* node for the person with the *name*, *Robin Wright*.

Exercise 6.3: Create a *Person* node (Solution)

Create a *Person* node for the person with the *name*, *Robin Wright*.

```
CREATE (:Person {name: 'Robin Wright'})
```

The result returned should be:

```
$ CREATE (:Person {name: 'Robin Wright'})
```

Table
Added 1 label, created 1 node, set 1 property, completed after 1 ms.

Code

Exercise 6.4: Retrieve the *Person* node you just created by its *name* (Instructions)

Retrieve the *Person* node you just created by its *name*.

Exercise 6.4: Retrieve the *Person* node you just created by its *name* (Solution)

Retrieve the *Person* node you just created by its *name*.

```
MATCH (p:Person)
WHERE p.name = 'Robin Wright'
RETURN p
```

The result returned should be:

```
$ MATCH (p:Person) WHERE p.name = 'Robin Wright' RETURN p
```

Graph
*(1) Person(1)

Table

A Text

Code

Person <id>: 368 name: Robin Wright

Exercise 6.5: Add a label to a node (Instructions)

Add the label *OlderMovie* to any *Movie* node that was released before 2010.

Exercise 6.5: Add a label to a node (Solution)

Add the label *OlderMovie* to any *Movie* node that was released before 2010.

```
MATCH (m:Movie)
WHERE m.released < 2010
SET m:OlderMovie
```

```
RETURN DISTINCT labels(m)
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.released < 2010 SET m:OlderMovie RETURN DISTINCT labels(m)
```

Table	labels(m)
Text	[{"Movie", "OlderMovie"}]

Exercise 6.6: Retrieve the node using the new label (Instructions)

Retrieve all older movie nodes to test that the label was indeed added to these nodes.

Exercise 6.6: Retrieve the node using the new label (Solution)

Retrieve all older movie nodes to test that the label was indeed added to these nodes.

```
MATCH (m:OlderMovie)  
RETURN m.title, m.released
```

The result returned should be:

m.title	m.released
"The Matrix"	1999
"The Matrix Reloaded"	2003
"The Matrix Revolutions"	2003
"The Devil's Advocate"	1997
"A Few Good Men"	1992
"Top Gun"	1986
"Jerry Maguire"	2000
"Stand By Me"	1986
"As Good as It Gets"	1997
"What Dreams May Come"	1998
"Snow Falling on Cedars"	1999
"You've Got Mail"	1998
"Sleepless in Seattle"	1993
"Joe Versus the Volcano"	1990
"When Harry Met Sally"	1998
"That Thing You Do"	1996

Started streaming 37 records after 1 ms and completed after 2 ms.

Exercise 6.7: Add the *Female* label to selected nodes (Instructions)

Add the label *Female* to all *Person* nodes that has a person whose name starts with *Robin*.

Exercise 6.7: Add the *Female* label to selected nodes (Solution)

Add the label *Female* to all *Person* nodes that has a person whose name starts with *Robin*.

```
MATCH (p:Person)  
WHERE p.name STARTS WITH 'Robin'  
SET p:Female
```

The result returned should be:

```
$ MATCH (p:Person) WHERE p.name STARTS WITH 'Robin' SET p:Female
```



Added 2 labels, completed after 8 ms.

Exercise 6.8: Retrieve all *Female* nodes (Instructions)

Retrieve all *Female* nodes

Exercise 6.8: Retrieve all *Female* nodes (Solution)

Retrieve all *Female* nodes

Do you notice that not all of these nodes should be labeled *Female*?

```
MATCH (p:Female)  
RETURN p.name
```

The result returned should be:

```
$ MATCH (p:Female) RETURN p.name
```



p.name
"Robin Wright"
"Robin Williams"

Here we see that there are two *Person* nodes. The *Robin Williams* node should not have the label *Female*.

Exercise 6.9: Remove the *Female* label from the nodes that have this label (Instructions)

We've decided to not use the *Female* label. Remove the *Female* label from the nodes that have this label.

Exercise 6.9: Remove the *Female* label from the nodes that have this label (Solution)

We've decided to not use the *Female* label. Remove the *Female* label from the nodes that have this label.

```
MATCH (p:Female)  
REMOVE p:Female
```

The result returned should be:

```
$ MATCH (p:Female) REMOVE p:Female
```



Removed 2 labels, completed after 9 ms.

Exercise 6.10: View the current schema of the graph (Instructions)

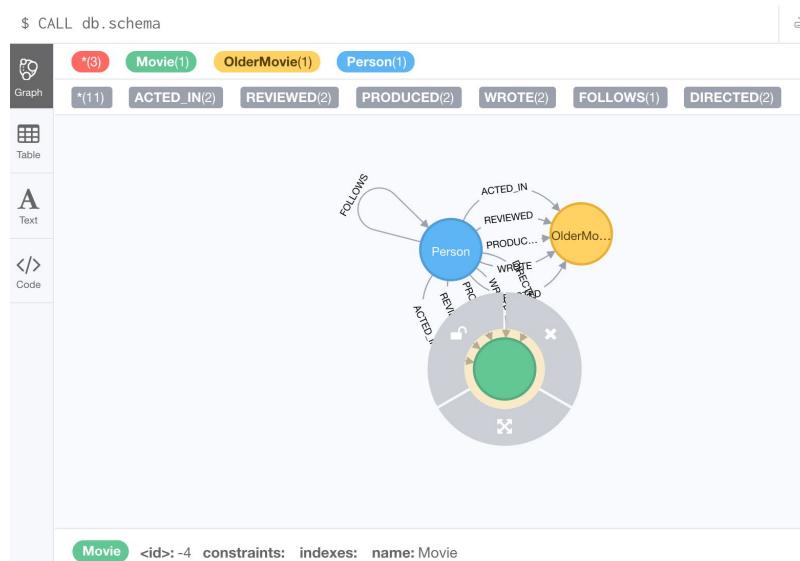
View the current schema of the graph.

Exercise 6.10: View the current schema of the graph (Solution)

View the current schema of the graph.

```
CALL db.schema
```

The result returned should be:



Exercise 6.11: Add properties to a movie (Instructions)

Add the following properties to the movie, *Forrest Gump*:

- **released: 1994**
- **tagline: Life is like a box of chocolates...you never know what you're gonna get.**
- **lengthInMinutes: 142**

Hint: This movie should also have the label *OlderMovie*.

Exercise 6.11: Add properties to a movie (Solution)

Add the following properties to the movie, *Forrest Gump*:

- **released: 1994**
- **tagline: Life is like a box of chocolates...you never know what you're gonna get.**
- **lengthInMinutes: 142**

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
SET m:OlderMovie,
  m.released = 1994,
  m.tagline = "Life is like a box of chocolates...you never know what you're gonna get.",
  m.lengthInMinutes = 142
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' SET m:OlderMovie, m.released = 1994, m.t...
```



Added 1 label, set 3 properties, completed after 3 ms.

Exercise 6.12: Retrieve an *OlderMovie* node to confirm the label and properties (Instructions)

Retrieve this *OlderMovie* node to confirm that the properties and label have been properly set.

Exercise 6.12: Retrieve an *OlderMovie* node to confirm the label and properties (Solution)

Retrieve this *OlderMovie* node to confirm that the properties and label have been properly set.

```
MATCH (m:OlderMovie)
WHERE m.title = 'Forrest Gump'
RETURN m
```

The result returned should be:

```
$ MATCH (m:OlderMovie) WHERE m.title = 'Forrest Gump' RETURN m
```



Exercise 6.13: Add properties to the person, *Robin Wright* (Instructions)

Add the following properties to the person, *Robin Wright*:

- born: 1966
- birthPlace: Dallas

Exercise 6.13: Add properties to the person, *Robin Wright* (Solution)

Add the following properties to the person, *Robin Wright*:

- born: 1966
- birthPlace: Dallas

```
MATCH (p:Person)
WHERE p.name = 'Robin Wright'
SET p.born = 1966, p.birthPlace = 'Dallas'
```

The result returned should be:

```
$ MATCH (p:Person) WHERE p.name = 'Robin Wright' SET p.born = 1966, p.birthPlace = 'Dallas'
```



Set 2 properties, completed after 2 ms.

Exercise 6.14: Retrieve an updated *Person* node (Instructions)

Retrieve this *Person* node to confirm that the properties have been properly set.

Exercise 6.14: Retrieve an updated *Person* node (Solution)

Retrieve this *Person* node to confirm that the properties have been properly set.

```
MATCH (p:Person)
WHERE p.name = 'Robin Wright'
RETURN p
```

The result returned should be:

```
$ MATCH (p:Person) WHERE p.name = 'Robin Wright' RETURN p
```

Graph	p
Table	{ "name": "Robin Wright", "birthPlace": "Dallas", "born": 1966 }

Exercise 6.15: Remove a property from a *Movie* node (Instructions)

Next, you will remove properties from specific nodes in the graph.

Remove the *lengthInMinutes* property from the movie, *Forrest Gump*.

Exercise 6.15: Remove a property from a *Movie* node (Solution)

Remove the *lengthInMinutes* property from the movie, *Forrest Gump*.

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
SET m.lengthInMinutes = null
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' SET m.lengthInMinutes = null
```



Set 1 property, completed after 3 ms.

Exercise 6.16: Retrieve the node to confirm that the property has been removed (Instructions)

Retrieve the *Forrest Gump* node to confirm that the property has been removed.

Exercise 6.16: Retrieve the node to confirm that the property has been removed (Solution)

Retrieve the *Forrest Gump* node to confirm that the property has been removed.

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN m
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' RETURN m
```



m

```
{
  "title": "Forrest Gump",
  "tagline": "Life is like a box of
chocolates...you never know what
you're gonna get.",
  "released": 1994
}
```

Exercise 6.17: Remove a property from a *Person* node (Instructions)

Remove the *birthPlace* property from the person, *Robin Wright*.

Exercise 6.17: Remove a property from a *Person* node_ (Solution)

Remove the *birthPlace* property from the person, *Robin Wright*.

```
MATCH (p:Person)
WHERE p.name = 'Robin Wright'
REMOVE p.birthPlace
```

The result returned should be:

```
$ MATCH (p:Person) WHERE p.name = 'Robin Wright' REMOVE p.birthPlace
```



Set 1 property, completed after 2 ms.

Exercise 6.18: Retrieve the node to confirm that the property has been removed (Instructions)

Retrieve the *Robin Wright* node to confirm that the property has been removed.

Exercise 6.18: Retrieve the node to confirm that the property has been removed (Solution)

Retrieve the *Robin Wright* node to confirm that the property has been removed.

```
MATCH (p:Person)
WHERE p.name = 'Robin Wright'
RETURN p
```

The result returned should be:

```
$ MATCH (p:Person) WHERE p.name = 'Robin Wright' RETURN p
```



Graph



Table



Text

p

```
{
  "name": "Robin Wright",
  "born": 1966
}
```

Exercise 6: Creating Nodes (Taking it further - optional)

- Add more labels to the *Movie* nodes to reflect the movie genre (action, drama, etc.).
- Query the database using different labels for movies.
- Try adding or updating properties using the JSON-style syntax using = and +=.
- Add properties to nodes using the JSON-style format where you add all of the properties to the node.
- Query the database to confirm your additions.
- Call the Cypher built-in method to retrieve all of the property keys in the graph.

Exercise 6: Creating Nodes (Summary)

In this exercise, you wrote Cypher statements to create nodes. Then you wrote Cypher statements to add and remove labels for nodes. Next, you used Cypher to add properties to nodes. Finally, you wrote Cypher statements to remove properties from nodes.

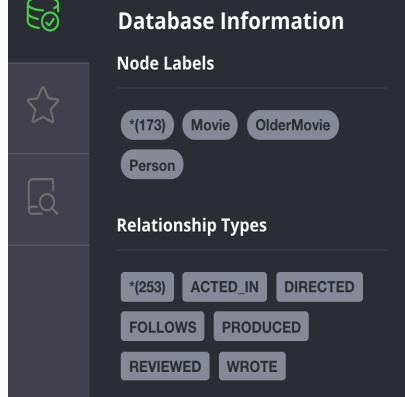
Continue to Exercise 7

Exercise 7

Exercise 7: Creating Relationships (Preparations)

Make sure you have the Movie database, which contains 173 nodes and 253 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>((TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>((TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>((TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>((TheMatrix),
(LillyW)-[:DIRECTED]>((TheMatrix),
(LanaW)-[:DIRECTED]>((TheMatrix),
(JoelS)-[:PRODUCED]>((TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>((TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>((TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>((TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>((TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>((TheMatrixReloaded),
(LillyW)-[:DIRECTED]>((TheMatrixReloaded),
(LanaW)-[:DIRECTED]>((TheMatrixReloaded),
(JoelS)-[:PRODUCED]>((TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>((TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>((TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>((TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>((TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>((TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>((TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>((TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})

CREATE (JackN:Person {name:'Jack Nicholson', born:1937})

CREATE (DemiM:Person {name:'Demi Moore', born:1962})

CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})

CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})

CREATE (NoahW:Person {name:'Noah Wyle', born:1971})

CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})

CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})

CREATE (JTW:Person {name:'J.T. Walsh', born:1943})

CREATE (JamesM:Person {name:'James Marshall', born:1967})

CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})

CREATE (RobR:Person {name:'Rob Reiner', born:1947})

CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})

CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),

(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup']}]->(AFewGoodMen),

(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway']}]->(AFewGoodMen),

(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross']}]->(AFewGoodMen),

(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick']}]->(AFewGoodMen),

(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes']}]->(AFewGoodMen),

(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker']}]->(AFewGoodMen),

(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg']}]->(AFewGoodMen),

(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson']}]->(AFewGoodMen),

(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey']}]->(AFewGoodMen),

(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone']}]->(AFewGoodMen),

(AaronS)-[:ACTED_IN {roles:'[Man in Bar']}]->(AFewGoodMen),

(RobR)-[:DIRECTED]->(AFewGoodMen),

(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})

CREATE (ValK:Person {name:'Val Kilmer', born:1959})

CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})

CREATE (TomS:Person {name:'Tom Skerritt', born:1933})

CREATE (MegR:Person {name:'Meg Ryan', born:1961})

CREATE (TonyS:Person {name:'Tony Scott', born:1944})

CREATE (JimC:Person {name:'Jim Cash', born:1941})

CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick']}]->(TopGun),

(KellyM)-[:ACTED_IN {roles:'[Charlie']}]->(TopGun),

(ValK)-[:ACTED_IN {roles:'[Iceman']}]->(TopGun),

(AnthonyE)-[:ACTED_IN {roles:'[Goose']}]->(TopGun),

(TomS)-[:ACTED_IN {roles:'[Viper']}]->(TopGun),

(MegR)-[:ACTED_IN {roles:'[Carole']}]->(TopGun),

(TonyS)-[:DIRECTED]->(TopGun),

(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})

CREATE (KellyP:Person {name:'Kelly Preston', born:1962})

CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})

CREATE (JayM:Person {name:'Jay Mohr', born:1970})

CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})

CREATE (ReginaK:Person {name:'Regina King', born:1971})

CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})

CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})

CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire']}]->(JerryMaguire),

(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell']}]->(JerryMaguire),

(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd']}]->(JerryMaguire),

(KellyP)-[:ACTED_IN {roles:'[Avery Bishop']}]->(JerryMaguire),

(JerryO)-[:ACTED_IN {roles:'[Frank Cushman']}]->(JerryMaguire),

(JayM)-[:ACTED_IN {roles:'[Bob Sugar']}]->(JerryMaguire),

(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd']}]->(JerryMaguire),

(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell']}]->(JerryMaguire),

(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd']}]->(JerryMaguire),

(CameronC)-[:DIRECTED]->(JerryMaguire),

(CameronC)-[:PRODUCED]->(JerryMaguire),

(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
(MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})

CREATE (DianeK:Person {name:'Diane Keaton', born:1946})

CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})

CREATE

(JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
(DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
(Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
(NancyM)-[:DIRECTED]->(SomethingsGottaGive),
(NancyM)-[:PRODUCED]->(SomethingsGottaGive),
(NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})

CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})

CREATE

(Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
(OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
(ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})

CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})

CREATE

(TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
(JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
(PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
(MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})

CREATE

(TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
(RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})

CREATE (Madonna:Person {name:'Madonna', born:1954})

CREATE (GeenaD:Person {name:'Geena Davis', born:1956})

CREATE (LoriP:Person {name:'Lori Petty', born:1963})

CREATE (PennyM:Person {name:'Penny Marshall', born:1943})

CREATE

(TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
(GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
(LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
(RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
(Madonna)-[:ACTED_IN {roles:'[â€œAll the Wayâ€ Mae Mordabito]'}]->(ALeagueofTheirOwn),
(BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
(PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})

CREATE (AngelaScope:Person {name:'Angela Scope'})

CREATE (JessicaThompson:Person {name:'Jessica Thompson'})

CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE

(JamesThompson)-[:FOLLOWS]->(JessicaThompson),
(AngelaScope)-[:FOLLOWS]->(JessicaThompson),
(PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE

(JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
(JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
(JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
(AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
(JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
(JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),
(JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),
(JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),
(JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire),
(ForrestGump:Movie:OlderMovie {title: 'Forrest Gump', released: 1994, tagline: "Life is like a box of chocolates...you never know what you're gonna get."}),
(RobinW:Person {name: 'Robin Wright', born: 1966});

MATCH (m:Movie)

WHERE m.released < 2010

SET m:OlderMovie

Exercise 7: Creating Relationships (Overview)

In the previous exercise, you created nodes, added and removed both properties and labels from nodes. The connections between nodes, the relationships, are one of the most important parts of a Neo4j graph.

In this exercise you will create relationships between nodes. Then you will add properties to relationships. Finally, you will remove properties from relationships.

- **Exercise 7.1:** Create *ACTED_IN* relationships.
- **Exercise 7.2:** Create *DIRECTED* relationships.
- **Exercise 7.3:** Create a *HELPED* relationship.
- **Exercise 7.4:** Query nodes and new relationships.
- **Exercise 7.5:** Add properties to relationships.
- **Exercise 7.6:** Add a property to the *HELPED* relationship.
- **Exercise 7.7:** View the current list of property keys in the graph.
- **Exercise 7.8:** View the current schema of the graph.
- **Exercise 7.9:** Retrieve the names and roles for actors.
- **Exercise 7.10:** Retrieve information about any specific relationships.
- **Exercise 7.11:** Modify a property of a relationship.
- **Exercise 7.12:** Remove a property from a relationship.
- **Exercise 7.13:** Confirm that your modifications were made to the graph.

Go to the next page to start this exercise.

Exercise 7.1: Create *ACTED_IN* relationships (Instructions)

In the last exercise, you created the node for the movie, *Forrest Gump* and the person, *Robin Wright*.

Create the *ACTED_IN* relationship between the actors, *Robin Wright*, *Tom Hanks*, and *Gary Sinise* and the movie, *Forrest Gump*.

Exercise 7.1: Create *ACTED_IN* relationships (Solution)

Create the *ACTED_IN* relationship between the actors, *Robin Wright*, *Tom Hanks*, and *Gary Sinise* and the movie, *Forrest Gump*.

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
MATCH (p:Person)
WHERE p.name = 'Tom Hanks' OR p.name = 'Robin Wright' OR p.name = 'Gary Sinise'
CREATE (p)-[:ACTED_IN]->(m)
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' M... ⚡
```



Created 3 relationships, completed after 17 ms.

</>

Exercise 7.2: Create **DIRECTED** relationships (Instructions)

Create the **DIRECTED** relationship between *Robert Zemeckis* and the movie, *Forrest Gump*.

Exercise 7.2: Create **DIRECTED** relationships (Solution)

Create the **DIRECTED** relationship between *Robert Zemeckis* and the movie, *Forrest Gump*.

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
MATCH (p:Person)
WHERE p.name = 'Robert Zemeckis'
CREATE (p)-[:DIRECTED]->(m)
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' M... ⚡ ↴ ↵
```



Created 1 relationship, completed after 4 ms.

Exercise 7.3: Create a **HELPED** relationship (Instructions)

Create a new relationship, **HELPED** from *Tom Hanks* to *Gary Sinise*.

Exercise 7.3: Create a **HELPED** relationship (Solution)

Create a new relationship, **HELPED** from *Tom Hanks* to *Gary Sinise*.

```
MATCH (p1:Person)
WHERE p1.name = 'Tom Hanks'
MATCH (p2:Person)
WHERE p2.name = 'Gary Sinise'
CREATE (p1)-[:HELPED]->(p2)
```

The result returned should be:

```
$ MATCH (p1:Person) WHERE p1.name = 'Tom Hanks' MATCH (p2:Person) WHERE p2.name = 'G... ⚡
```



Created 1 relationship, completed after 13 ms.

Exercise 7.4: Query nodes and new relationships (Instructions)

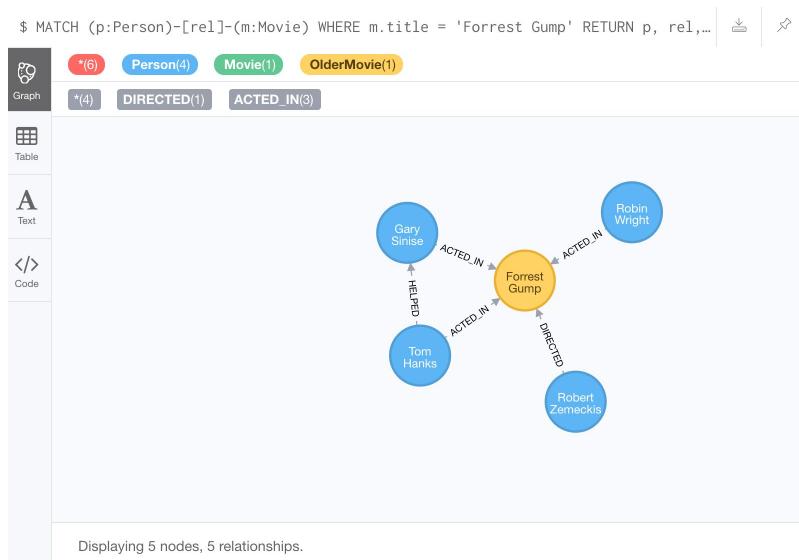
Write a Cypher query to return all nodes connected to the movie, *Forrest Gump*, along with their relationships.

Exercise 7.4: Query nodes and new relationships (Solution)

Write a Cypher query to return all nodes connected to the movie, *Forrest Gump*, along with their relationships.

```
MATCH (p:Person)-[rel]-(m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN p, rel, m
```

The result returned should be:



Notice here that the *HELPED* relationship is also shown because *Tom Hanks* and *Gary Sinise* are connected and we have *Connect result nodes* selected in our Neo4j Browser settings.

Exercise 7.5: Add properties to relationships (Instructions)

Next, you will add some properties to the relationships that you just created.

Add the *roles* property to the three *ACTED_IN* relationships that you just created to the movie, *Forrest Gump* using this information: *Tom Hanks* played the role, *Forrest Gump*. *Robin Wright* played the role, *Jenny Curran*. *Gary Sinise* played the role, *Lieutenant Dan Taylor*.

Hint: You can set each relationship using separate `MATCH` clauses. You can also use a `CASE` clause to set the values. Look up in the documentation for how to use the `CASE` clause.

Exercise 7.5: Add properties to relationships (Solution)

Add the *roles* property to the three *ACTED_IN* relationships that you just created to the movie, *Forrest Gump* using this information: *Tom Hanks* played the role, *Forrest Gump*. *Robin Wright* played the role, *Jenny Curran*. *Gary Sinise* played the role, *Lieutenant Dan Taylor*.

```

MATCH (p:Person)-[rel:ACTED_IN]->(m:Movie)
WHERE m.title = 'Forrest Gump'
SET rel.roles =
CASE p.name
  WHEN 'Tom Hanks' THEN ['Forrest Gump']
  WHEN 'Robin Wright' THEN ['Jenny Curran']
  WHEN 'Gary Sinise' THEN ['Lieutenant Dan Taylor']
END

```

The result returned should be:

```
$ MATCH (p:Person)-[rel:ACTED_IN]->(m:Movie) WHERE m.title = 'Forrest Gump' SET rel...
```



Set 3 properties, completed after 5 ms.



Exercise 7.6: Add a property to the **HELPED** relationship (Instructions)

Add a new property, *research* to the **HELPED** relationship between *Tom Hanks* and *Gary Sinise* and set this property's value to *war history*.

Exercise 7.6: Add a property to the **HELPED** relationship (Solution)

Add a new property, *research* to the **HELPED** relationship between *Tom Hanks* and *Gary Sinise* and set this property's value to *war history*.

```

MATCH (p1:Person)-[rel:HELPED]->(p2:Person)
WHERE p1.name = 'Tom Hanks' AND p2.name = 'Gary Sinise'
SET rel.research = 'war history'

```

The result returned should be:

```
$ MATCH (p1:Person)-[rel:HELPED]->(p2:Person) WHERE p1.name = 'Tom Hanks' AND p2.name...
```



Set 1 property, completed after 11 ms.



Exercise 7.7: View the current list of property keys in the graph (Instructions)

View the current list of property keys in the graph.

Exercise 7.7: View the current list of property keys in the graph (Solution)

View the current list of property keys in the graph.

```
call db.propertyKeys
```

The result returned should be:

```
$ call db.propertyKeys
```

Table
Text
Code

```
"title"
"released"
"tagline"
"name"
"born"
"roles"
"summary"
"rating"
"id"
"share_link"
"favorite_count"
"display_name"
"lengthInMinutes"
"videoFormat"
"grossMillions"
"birthPlace"
"latestMovie"
"research"
```

Started streaming 18 records after 1 ms and completed after 1 ms.

Exercise 7.8: View the current schema of the graph (Instructions)

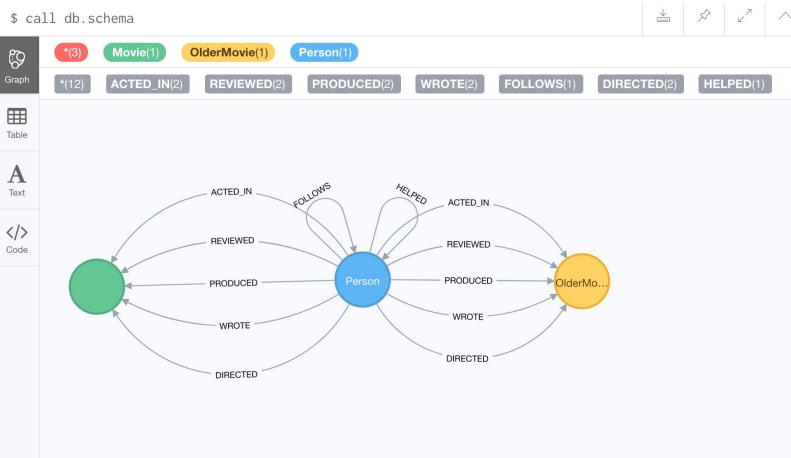
View the current schema of the graph.

Exercise 7.8: View the current schema of the graph (Solution)

View the current schema of the graph.

call db.schema

The result returned should be:



Exercise 7.9: Retrieve the names and roles for actors (Instructions)

Query the graph to return the names and roles of actors in the movie, *Forrest Gump*.

Exercise 7.9: Retrieve the names and roles for actors (Solution)

Query the graph to return the names and roles of actors in the movie, *Forrest Gump*.

```
MATCH (p:Person)-[rel:ACTED_IN]->(m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN p.name, rel.roles
```

The result returned should be:

p.name	rel.roles
"Robin Wright"	[{"Jenny Curran"}]
"Gary Sinise"	[{"Lieutenant Dan Taylor"}]
"Tom Hanks"	[{"Forrest Gump"}]

Exercise 7.10: Retrieve information about any specific relationships (Instructions)

Query the graph to retrieve information about any *HELPED* relationships.

Exercise 7.10: Retrieve information about any specific relationships (Solution)

Query the graph to retrieve information about any *HELPED* relationships.

```
MATCH (p1:Person)-[rel:HELPED]-(p2:Person)
RETURN p1.name, rel, p2.name
```

The result returned should be:

p1.name	rel	p2.name
"Tom Hanks"	{}	"Gary Sinise"
"Gary Sinise"	{}	"Tom Hanks"

Notice here that 2 results are returned. That is because we did not specify a direction for the relationship in the query. So there is a relationship from *Tom Hanks* and also to *Gary Sinise*, even though there is only one physical relationship in the graph. If you specify a direction for the relationship, only one result is returned.

Exercise 7.11: Modify a property of a relationship (Instructions)

Next, you will modify existing properties for a relationship and also remove them.

Modify the *role* that *Gary Sinise* played in the movie, *Forrest Gump* from *Lieutenant Dan Taylor* to *Lt. Dan Taylor*.

Exercise 7.11: Modify a property of a relationship (Solution)

Modify the role that *Gary Sinise* played in the movie, *Forrest Gump* from *Lieutenant Dan Taylor* to *Lt. Dan Taylor*.

```
MATCH (p:Person)-[rel:ACTED_IN]->(m:Movie)
WHERE m.title = 'Forrest Gump' AND p.name = 'Gary Sinise'
SET rel.roles = ['Lt. Dan Taylor']
```

The result returned should be:

```
$ MATCH (p:Person)-[rel:ACTED_IN]->(m:Movie) WHERE m.title = 'Forrest Gump' AND p.name...
Table Set 1 property, completed after 2 ms.
Code
```

Exercise 7.12: Remove a property from a relationship (Instructions)

Remove the *research* property from the *HELPED* relationship from *Tom Hanks* to *Gary Sinise*.

Exercise 7.12: Remove a property from a relationship (Solution)

Remove the *research* property from the *HELPED* relationship from *Tom Hanks* to *Gary Sinise*.

```
MATCH (p1:Person)-[rel:HELPED]->(p2:Person)
WHERE p1.name = 'Tom Hanks' AND p2.name = 'Gary Sinise'
REMOVE rel.research
```

The result returned should be:

```
$ MATCH (p1:Person)-[rel:HELPED]->(p2:Person) WHERE p1.name = 'Tom Hanks' AND p2.name...
Table Set 1 property, completed after 3 ms.
Code
```

Exercise 7.13: Confirm that your modifications were made to the graph (Instructions)

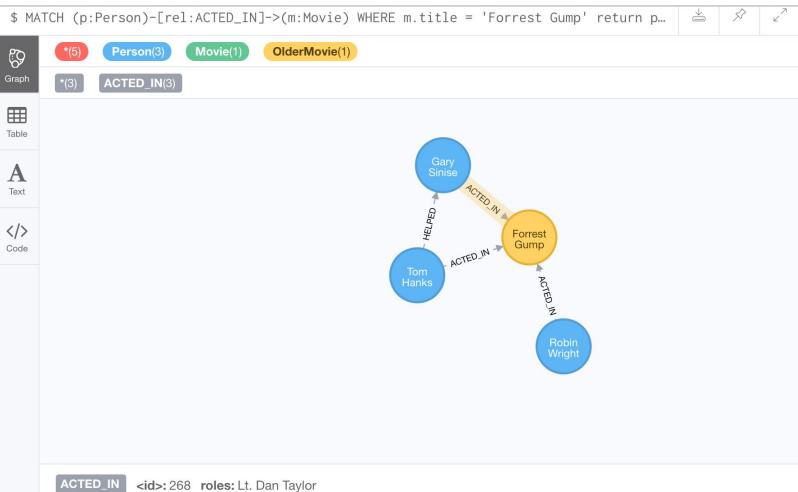
Query the graph to confirm that your modifications were made to the graph.

Exercise 7.13: Confirm that your modifications were made to the graph (Solution)

Query the graph to confirm that your modifications were made to the graph.

```
MATCH (p:Person)-[rel:ACTED_IN]->(m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN p, rel, m
```

The result returned should be:



Exercise 7: Creating Relationships (Taking it further - optional)

- Try adding or updating properties using the JSON-style syntax using = and +=.

Exercise 7: Creating Relationships (Summary)

In this exercise you created relationships between nodes. Then you added properties to relationships. Finally, you removed properties from relationships.

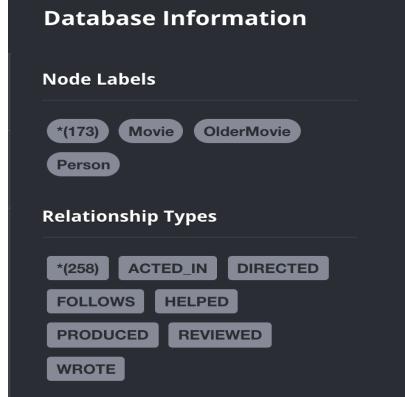
Continue to Exercise 8

Exercise 8

Exercise 8: Deleting Nodes and Relationships (Preparations)

Make sure you have the Movie database, which contains 173 nodes and 258 relationships.

This is what you should see when you click the database icon:



If your database does not have this number of nodes and relationships, you can use the script below to reset it:

```
MATCH (n) DETACH DELETE n;
CREATE (TheMatrix:Movie {title:'The Matrix', released:1999, tagline:'Welcome to the Real World'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961})
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrix),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrix),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrix),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrix),
(LillyW)-[:DIRECTED]>(TheMatrix),
(LanaW)-[:DIRECTED]>(TheMatrix),
(JoelS)-[:PRODUCED]>(TheMatrix)

CREATE (Emil:Person {name:"Emil Eifrem", born:1978})
CREATE (Emil)-[:ACTED_IN {roles:["Emil"]}]>(TheMatrix)

CREATE (TheMatrixReloaded:Movie {title:'The Matrix Reloaded', released:2003, tagline:'Free your mind'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixReloaded),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixReloaded),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixReloaded),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixReloaded),
(LillyW)-[:DIRECTED]>(TheMatrixReloaded),
(LanaW)-[:DIRECTED]>(TheMatrixReloaded),
(JoelS)-[:PRODUCED]>(TheMatrixReloaded)

CREATE (TheMatrixRevolutions:Movie {title:'The Matrix Revolutions', released:2003, tagline:'Everything that has a beginning has an end'})
CREATE
(Keanu)-[:ACTED_IN {roles:['Neo']}]>(TheMatrixRevolutions),
(Carrie)-[:ACTED_IN {roles:['Trinity']}]>(TheMatrixRevolutions),
(Laurence)-[:ACTED_IN {roles:['Morpheus']}]>(TheMatrixRevolutions),
(Hugo)-[:ACTED_IN {roles:['Agent Smith']}]>(TheMatrixRevolutions),
(LillyW)-[:DIRECTED]>(TheMatrixRevolutions),
(LanaW)-[:DIRECTED]>(TheMatrixRevolutions),
(JoelS)-[:PRODUCED]>(TheMatrixRevolutions)

CREATE (TheDevilsAdvocate:Movie {title:"The Devil's Advocate", released:1997, tagline:'Evil has its winning ways'})
CREATE (Charlize:Person {name:'Charlize Theron', born:1975})
CREATE (Al:Person {name:'Al Pacino', born:1940})
CREATE (Taylor:Person {name:'Taylor Hackford', born:1944})
CREATE
```

(Keanu)-[:ACTED_IN {roles:'[Kevin Lomax']}]->(TheDevilsAdvocate),
(Charlize)-[:ACTED_IN {roles:'[Mary Ann Lomax']}]->(TheDevilsAdvocate),
(Al)-[:ACTED_IN {roles:'[John Milton']}]->(TheDevilsAdvocate),
(Taylor)-[:DIRECTED]->(TheDevilsAdvocate)

CREATE (AFewGoodMen:Movie {title:"A Few Good Men", released:1992, tagline:"In the heart of the nation's capital, in a courthouse of the U.S. government, one man will stop at nothing to keep his honor, and one will stop at nothing to find the truth."})

CREATE (TomC:Person {name:'Tom Cruise', born:1962})
CREATE (JackN:Person {name:'Jack Nicholson', born:1937})
CREATE (DemiM:Person {name:'Demi Moore', born:1962})
CREATE (KevinB:Person {name:'Kevin Bacon', born:1958})
CREATE (KieferS:Person {name:'Kiefer Sutherland', born:1966})
CREATE (NoahW:Person {name:'Noah Wyle', born:1971})
CREATE (CubaG:Person {name:'Cuba Gooding Jr.', born:1968})
CREATE (KevinP:Person {name:'Kevin Pollak', born:1957})
CREATE (JTW:Person {name:'J.T. Walsh', born:1943})
CREATE (JamesM:Person {name:'James Marshall', born:1967})
CREATE (ChristopherG:Person {name:'Christopher Guest', born:1948})
CREATE (RobR:Person {name:'Rob Reiner', born:1947})
CREATE (AaronS:Person {name:'Aaron Sorkin', born:1961})
CREATE

(TomC)-[:ACTED_IN {roles:'[Lt. Daniel Kaffee']}]->(AFewGoodMen),
(JackN)-[:ACTED_IN {roles:'[Col. Nathan R. Jessup']}]->(AFewGoodMen),
(DemiM)-[:ACTED_IN {roles:'[Lt. Cdr. JoAnne Galloway']}]->(AFewGoodMen),
(KevinB)-[:ACTED_IN {roles:'[Capt. Jack Ross']}]->(AFewGoodMen),
(KieferS)-[:ACTED_IN {roles:'[Lt. Jonathan Kendrick']}]->(AFewGoodMen),
(NoahW)-[:ACTED_IN {roles:'[Cpl. Jeffrey Barnes']}]->(AFewGoodMen),
(CubaG)-[:ACTED_IN {roles:'[Cpl. Carl Hammaker']}]->(AFewGoodMen),
(KevinP)-[:ACTED_IN {roles:'[Lt. Sam Weinberg']}]->(AFewGoodMen),
(JTW)-[:ACTED_IN {roles:'[Lt. Col. Matthew Andrew Markinson']}]->(AFewGoodMen),
(JamesM)-[:ACTED_IN {roles:'[Pfc. Louden Downey']}]->(AFewGoodMen),
(ChristopherG)-[:ACTED_IN {roles:'[Dr. Stone']}]->(AFewGoodMen),
(AaronS)-[:ACTED_IN {roles:'[Man in Bar']}]->(AFewGoodMen),
(RobR)-[:DIRECTED]->(AFewGoodMen),
(AaronS)-[:WROTE]->(AFewGoodMen)

CREATE (TopGun:Movie {title:"Top Gun", released:1986, tagline:'I feel the need, the need for speed.'})

CREATE (KellyM:Person {name:'Kelly McGillis', born:1957})
CREATE (ValK:Person {name:'Val Kilmer', born:1959})
CREATE (AnthonyE:Person {name:'Anthony Edwards', born:1962})
CREATE (TomS:Person {name:'Tom Skerritt', born:1933})
CREATE (MegR:Person {name:'Meg Ryan', born:1961})
CREATE (TonyS:Person {name:'Tony Scott', born:1944})
CREATE (JimC:Person {name:'Jim Cash', born:1941})
CREATE

(TomC)-[:ACTED_IN {roles:'[Maverick']}]->(TopGun),
(KellyM)-[:ACTED_IN {roles:'[Charlie']}]->(TopGun),
(ValK)-[:ACTED_IN {roles:'[Iceman']}]->(TopGun),
(AnthonyE)-[:ACTED_IN {roles:'[Goose']}]->(TopGun),
(TomS)-[:ACTED_IN {roles:'[Viper']}]->(TopGun),
(MegR)-[:ACTED_IN {roles:'[Carole']}]->(TopGun),
(TonyS)-[:DIRECTED]->(TopGun),
(JimC)-[:WROTE]->(TopGun)

CREATE (JerryMaguire:Movie {title:'Jerry Maguire', released:2000, tagline:'The rest of his life begins now.'})

CREATE (ReneeZ:Person {name:'Renee Zellweger', born:1969})
CREATE (KellyP:Person {name:'Kelly Preston', born:1962})
CREATE (JerryO:Person {name:'Jerry O'Connell', born:1974})
CREATE (JayM:Person {name:'Jay Mohr', born:1970})
CREATE (BonnieH:Person {name:'Bonnie Hunt', born:1961})
CREATE (ReginaK:Person {name:'Regina King', born:1971})
CREATE (JonathanL:Person {name:'Jonathan Lipnicki', born:1996})
CREATE (CameronC:Person {name:'Cameron Crowe', born:1957})
CREATE

(TomC)-[:ACTED_IN {roles:'[Jerry Maguire']}]->(JerryMaguire),
(CubaG)-[:ACTED_IN {roles:'[Rod Tidwell']}]->(JerryMaguire),
(ReneeZ)-[:ACTED_IN {roles:'[Dorothy Boyd']}]->(JerryMaguire),
(KellyP)-[:ACTED_IN {roles:'[Avery Bishop']}]->(JerryMaguire),
(JerryO)-[:ACTED_IN {roles:'[Frank Cushman']}]->(JerryMaguire),
(JayM)-[:ACTED_IN {roles:'[Bob Sugar']}]->(JerryMaguire),
(BonnieH)-[:ACTED_IN {roles:'[Laurel Boyd']}]->(JerryMaguire),
(ReginaK)-[:ACTED_IN {roles:'[Marcee Tidwell']}]->(JerryMaguire),
(JonathanL)-[:ACTED_IN {roles:'[Ray Boyd']}]->(JerryMaguire),
(CameronC)-[:DIRECTED]->(JerryMaguire),
(CameronC)-[:PRODUCED]->(JerryMaguire),
(CameronC)-[:WROTE]->(JerryMaguire)

CREATE (StandByMe:Movie {title:"Stand By Me", released:1986, tagline:"For some, it's the last real taste of innocence, and the first real taste of life. But for everyone, it's the time that memories are made of."})

CREATE (RiverP:Person {name:'River Phoenix', born:1970})

CREATE (CoreyF:Person {name:'Corey Feldman', born:1971})
 CREATE (WilW:Person {name:'Wil Wheaton', born:1972})
 CREATE (JohnC:Person {name:'John Cusack', born:1966})
 CREATE (MarshallB:Person {name:'Marshall Bell', born:1942})
 CREATE
 (WilW)-[:ACTED_IN {roles:['Gordie Lachance']}]->(StandByMe),
 (RiverP)-[:ACTED_IN {roles:['Chris Chambers']}]->(StandByMe),
 (JerryO)-[:ACTED_IN {roles:['Vern Tessio']}]->(StandByMe),
 (CoreyF)-[:ACTED_IN {roles:['Teddy Duchamp']}]->(StandByMe),
 (JohnC)-[:ACTED_IN {roles:['Denny Lachance']}]->(StandByMe),
 (KieferS)-[:ACTED_IN {roles:['Ace Merrill']}]->(StandByMe),
 (MarshallB)-[:ACTED_IN {roles:['Mr. Lachance']}]->(StandByMe),
 (RobR)-[:DIRECTED]->(StandByMe)

CREATE (AsGoodAsItGets:Movie {title:'As Good as It Gets', released:1997, tagline:'A comedy from the heart that goes for the throat.'})
 CREATE (HelenH:Person {name:'Helen Hunt', born:1963})
 CREATE (GregK:Person {name:'Greg Kinnear', born:1963})
 CREATE (JamesB:Person {name:'James L. Brooks', born:1940})
 CREATE
 (JackN)-[:ACTED_IN {roles:['Melvin Udall']}]->(AsGoodAsItGets),
 (HelenH)-[:ACTED_IN {roles:['Carol Connolly']}]->(AsGoodAsItGets),
 (GregK)-[:ACTED_IN {roles:['Simon Bishop']}]->(AsGoodAsItGets),
 (CubaG)-[:ACTED_IN {roles:['Frank Sachs']}]->(AsGoodAsItGets),
 (JamesB)-[:DIRECTED]->(AsGoodAsItGets)

CREATE (WhatDreamsMayCome:Movie {title:'What Dreams May Come', released:1998, tagline:'After life there is more. The end is just the beginning.'})
 CREATE (AnnabellaS:Person {name:'Annabella Sciorra', born:1960})
 CREATE (MaxS:Person {name:'Max von Sydow', born:1929})
 CREATE (WernerH:Person {name:'Werner Herzog', born:1942})
 CREATE (Robin:Person {name:'Robin Williams', born:1951})
 CREATE (VincentW:Person {name:'Vincent Ward', born:1956})
 CREATE
 (Robin)-[:ACTED_IN {roles:['Chris Nielsen']}]->(WhatDreamsMayCome),
 (CubaG)-[:ACTED_IN {roles:['Albert Lewis']}]->(WhatDreamsMayCome),
 (AnnabellaS)-[:ACTED_IN {roles:['Annie Collins-Nielsen']}]->(WhatDreamsMayCome),
 (MaxS)-[:ACTED_IN {roles:['The Tracker']}]->(WhatDreamsMayCome),
 (WernerH)-[:ACTED_IN {roles:['The Face']}]->(WhatDreamsMayCome),
 (VincentW)-[:DIRECTED]->(WhatDreamsMayCome)

CREATE (SnowFallingonCedars:Movie {title:'Snow Falling on Cedars', released:1999, tagline:'First loves last. Forever.'})
 CREATE (EthanH:Person {name:'Ethan Hawke', born:1970})
 CREATE (RickY:Person {name:'Rick Yune', born:1971})
 CREATE (JamesC:Person {name:'James Cromwell', born:1940})
 CREATE (ScottH:Person {name:'Scott Hicks', born:1953})
 CREATE
 (EthanH)-[:ACTED_IN {roles:['Ishmael Chambers']}]->(SnowFallingonCedars),
 (RickY)-[:ACTED_IN {roles:['Kazuo Miyamoto']}]->(SnowFallingonCedars),
 (MaxS)-[:ACTED_IN {roles:['Nels Gudmundsson']}]->(SnowFallingonCedars),
 (JamesC)-[:ACTED_IN {roles:['Judge Fielding']}]->(SnowFallingonCedars),
 (ScottH)-[:DIRECTED]->(SnowFallingonCedars)

CREATE (YouveGotMail:Movie {title:'You've Got Mail', released:1998, tagline:'At odds in life... in love on-line.'})
 CREATE (ParkerP:Person {name:'Parker Posey', born:1968})
 CREATE (DaveC:Person {name:'Dave Chappelle', born:1973})
 CREATE (SteveZ:Person {name:'Steve Zahn', born:1967})
 CREATE (TomH:Person {name:'Tom Hanks', born:1956})
 CREATE (NoraE:Person {name:'Nora Ephron', born:1941})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Joe Fox']}]->(YouveGotMail),
 (MegR)-[:ACTED_IN {roles:['Kathleen Kelly']}]->(YouveGotMail),
 (GregK)-[:ACTED_IN {roles:['Frank Navasky']}]->(YouveGotMail),
 (ParkerP)-[:ACTED_IN {roles:['Patricia Eden']}]->(YouveGotMail),
 (DaveC)-[:ACTED_IN {roles:['Kevin Jackson']}]->(YouveGotMail),
 (SteveZ)-[:ACTED_IN {roles:['George Pappas']}]->(YouveGotMail),
 (NoraE)-[:DIRECTED]->(YouveGotMail)

CREATE (SleeplessInSeattle:Movie {title:'Sleepless in Seattle', released:1993, tagline:'What if someone you never met, someone you never saw, someone you never knew was the only someone for you?'})
 CREATE (RitaW:Person {name:'Rita Wilson', born:1956})
 CREATE (BillPull:Person {name:'Bill Pullman', born:1953})
 CREATE (VictorG:Person {name:'Victor Garber', born:1949})
 CREATE (RosieO:Person {name:'Rosie O'Donnell', born:1962})
 CREATE
 (TomH)-[:ACTED_IN {roles:['Sam Baldwin']}]->(SleeplessInSeattle),
 (MegR)-[:ACTED_IN {roles:['Annie Reed']}]->(SleeplessInSeattle),
 (RitaW)-[:ACTED_IN {roles:['Suzy']}]->(SleeplessInSeattle),
 (BillPull)-[:ACTED_IN {roles:['Walter']}]->(SleeplessInSeattle),
 (VictorG)-[:ACTED_IN {roles:['Greg']}]->(SleeplessInSeattle),
 (RosieO)-[:ACTED_IN {roles:['Becky']}]->(SleeplessInSeattle),

(NoraE)-[:DIRECTED]->(SleeplessInSeattle)

CREATE (JoeVersusTheVolcano:Movie {title:'Joe Versus the Volcano', released:1990, tagline:'A story of love, lava and burning desire.'})
CREATE (JohnS:Person {name:'John Patrick Stanley', born:1950})
CREATE (Nathan:Person {name:'Nathan Lane', born:1956})
CREATE
(TomH)-[:ACTED_IN {roles:['Joe Banks']}]->(JoeVersusTheVolcano),
(MegR)-[:ACTED_IN {roles:['DeDe', 'Angelica Graynamore', 'Patricia Graynamore']}]->(JoeVersusTheVolcano),
(Nathan)-[:ACTED_IN {roles:['Baw']}]->(JoeVersusTheVolcano),
(JohnS)-[:DIRECTED]->(JoeVersusTheVolcano)

CREATE (WhenHarryMetSally:Movie {title:'When Harry Met Sally', released:1998, tagline:'At odds in life... in love on-line.'})
CREATE (BillyC:Person {name:'Billy Crystal', born:1948})
CREATE (CarrieF:Person {name:'Carrie Fisher', born:1956})
CREATE (BrunoK:Person {name:'Bruno Kirby', born:1949})
CREATE
(BillyC)-[:ACTED_IN {roles:['Harry Burns']}]->(WhenHarryMetSally),
(MegR)-[:ACTED_IN {roles:['Sally Albright']}]->(WhenHarryMetSally),
(CarrieF)-[:ACTED_IN {roles:['Marie']}]->(WhenHarryMetSally),
(BrunoK)-[:ACTED_IN {roles:['Jess']}]->(WhenHarryMetSally),
(RobR)-[:DIRECTED]->(WhenHarryMetSally),
(RobR)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:PRODUCED]->(WhenHarryMetSally),
(NoraE)-[:WROTE]->(WhenHarryMetSally)

CREATE (ThatThingYouDo:Movie {title:'That Thing You Do', released:1996, tagline:'In every life there comes a time when that thing you dream becomes that thing you do'})
CREATE (LivT:Person {name:'Liv Tyler', born:1977})
CREATE
(TomH)-[:ACTED_IN {roles:['Mr. White']}]->(ThatThingYouDo),
(LivT)-[:ACTED_IN {roles:['Faye Dolan']}]->(ThatThingYouDo),
(Charlize)-[:ACTED_IN {roles:['Tina']}]->(ThatThingYouDo),
(TomH)-[:DIRECTED]->(ThatThingYouDo)

CREATE (TheReplacements:Movie {title:'The Replacements', released:2000, tagline:'Pain heals, Chicks dig scars... Glory lasts forever'})
CREATE (Brooke:Person {name:'Brooke Langton', born:1970})
CREATE (Gene:Person {name:'Gene Hackman', born:1930})
CREATE (Orlando:Person {name:'Orlando Jones', born:1968})
CREATE (Howard:Person {name:'Howard Deutch', born:1950})
CREATE
(Keanu)-[:ACTED_IN {roles:['Shane Falco']}]->(TheReplacements),
(Brooke)-[:ACTED_IN {roles:['Annabelle Farrell']}]->(TheReplacements),
(Gene)-[:ACTED_IN {roles:['Jimmy McGinty']}]->(TheReplacements),
(Orlando)-[:ACTED_IN {roles:['Clifford Franklin']}]->(TheReplacements),
(Howard)-[:DIRECTED]->(TheReplacements)

CREATE (RescueDawn:Movie {title:'RescueDawn', released:2006, tagline:"Based on the extraordinary true story of one man's fight for freedom"})
CREATE (ChristianB:Person {name:'Christian Bale', born:1974})
CREATE (ZachG:Person {name:'Zach Grenier', born:1954})
CREATE
(MarshallB)-[:ACTED_IN {roles:['Admiral']}]->(RescueDawn),
(ChristianB)-[:ACTED_IN {roles:['Dieter Dengler']}]->(RescueDawn),
(ZachG)-[:ACTED_IN {roles:['Squad Leader']}]->(RescueDawn),
(SteveZ)-[:ACTED_IN {roles:['Duane']}]->(RescueDawn),
(WernerH)-[:DIRECTED]->(RescueDawn)

CREATE (TheBirdcage:Movie {title:'The Birdcage', released:1996, tagline:'Come as you are'})
CREATE (MikeN:Person {name:'Mike Nichols', born:1931})
CREATE
(Robin)-[:ACTED_IN {roles:['Armand Goldman']}]->(TheBirdcage),
(Nathan)-[:ACTED_IN {roles:['Albert Goldman']}]->(TheBirdcage),
(Gene)-[:ACTED_IN {roles:['Sen. Kevin Keeley']}]->(TheBirdcage),
(MikeN)-[:DIRECTED]->(TheBirdcage)

CREATE (Unforgiven:Movie {title:'Unforgiven', released:1992, tagline:"It's a hell of a thing, killing a man"})
CREATE (RichardH:Person {name:'Richard Harris', born:1930})
CREATE (ClintE:Person {name:'Clint Eastwood', born:1930})
CREATE

(RichardH)-[:ACTED_IN {roles:['English Bob']}]->(Unforgiven),
(ClintE)-[:ACTED_IN {roles:['Bill Munny']}]->(Unforgiven),
(Gene)-[:ACTED_IN {roles:['Little Bill Daggett']}]->(Unforgiven),
(ClintE)-[:DIRECTED]->(Unforgiven)

CREATE (JohnnyMnemonic:Movie {title:'Johnny Mnemonic', released:1995, tagline:'The hottest data on earth. In the coolest head in town'})
CREATE (Takeshi:Person {name:'Takeshi Kitano', born:1947})
CREATE (Dina:Person {name:'Dina Meyer', born:1968})
CREATE (IceT:Person {name:'Ice-T', born:1958})
CREATE (RobertL:Person {name:'Robert Longo', born:1953})
CREATE

(Keanu)-[:ACTED_IN {roles:'[Johnny Mnemonic']}]->(JohnnyMnemonic),
(Takeshi)-[:ACTED_IN {roles:'[Takahashi']}]->(JohnnyMnemonic),
(Dina)-[:ACTED_IN {roles:'[Jane']}]->(JohnnyMnemonic),
(IceT)-[:ACTED_IN {roles:'[J-Bone']}]->(JohnnyMnemonic),
(RobertL)-[:DIRECTED]->(JohnnyMnemonic)

CREATE (CloudAtlas:Movie {title:'Cloud Atlas', released:2012, tagline:'Everything is connected'})
CREATE (HalleB:Person {name:'Halle Berry', born:1966})
CREATE (JimB:Person {name:'Jim Broadbent', born:1949})
CREATE (TomT:Person {name:'Tom Tykwer', born:1965})
CREATE (DavidMitchell:Person {name:'David Mitchell', born:1969})
CREATE (StefanArndt:Person {name:'Stefan Arndt', born:1961})
CREATE
(TomH)-[:ACTED_IN {roles:'[Zachry, Dr. Henry Goose, Isaac Sachs, Dermot Hoggins']}]->(CloudAtlas),
(Hugo)-[:ACTED_IN {roles:'[Bill Smoke, Haskell Moore, Tadeusz Kesselring, Nurse Noakes, Boardman Mephi, Old Georgie']}]->(CloudAtlas),
(HalleB)-[:ACTED_IN {roles:'[Luisa Rey, Jocasta Ayrs, Ovid, Meronym]'}]->(CloudAtlas),
(JimB)-[:ACTED_IN {roles:'[Vyvyan Ayrs, Captain Molyneux, Timothy Cavendish]'}]->(CloudAtlas),
(TomT)-[:DIRECTED]->(CloudAtlas),
(LillyW)-[:DIRECTED]->(CloudAtlas),
(LanaW)-[:DIRECTED]->(CloudAtlas),
(DavidMitchell)-[:WROTE]->(CloudAtlas),
(StefanArndt)-[:PRODUCED]->(CloudAtlas)

CREATE (TheDaVinciCode:Movie {title:'The Da Vinci Code', released:2006, tagline:'Break The Codes'})
CREATE (IanM:Person {name:'Ian McKellen', born:1939})
CREATE (AudreyT:Person {name:'Audrey Tautou', born:1976})
CREATE (PaulB:Person {name:'Paul Bettany', born:1971})
CREATE (RonH:Person {name:'Ron Howard', born:1954})
CREATE
(TomH)-[:ACTED_IN {roles:'[Dr. Robert Langdon]'}]->(TheDaVinciCode),
(IanM)-[:ACTED_IN {roles:'[Sir Leight Teabing]'}]->(TheDaVinciCode),
(AudreyT)-[:ACTED_IN {roles:'[Sophie Neveu]'}]->(TheDaVinciCode),
(PaulB)-[:ACTED_IN {roles:'[Silas]'}]->(TheDaVinciCode),
(RonH)-[:DIRECTED]->(TheDaVinciCode)

CREATE (VforVendetta:Movie {title:'V for Vendetta', released:2006, tagline:'Freedom! Forever!'}))
CREATE (NatalieP:Person {name:'Natalie Portman', born:1981})
CREATE (StephenR:Person {name:'Stephen Rea', born:1946})
CREATE (JohnH:Person {name:'John Hurt', born:1940})
CREATE (BenM:Person {name:'Ben Miles', born:1967})
CREATE
(Hugo)-[:ACTED_IN {roles:'[V]'}]->(VforVendetta),
(NatalieP)-[:ACTED_IN {roles:'[Evey Hammond]'}]->(VforVendetta),
(StephenR)-[:ACTED_IN {roles:'[Eric Finch]'}]->(VforVendetta),
(JohnH)-[:ACTED_IN {roles:'[High Chancellor Adam Sutler]'}]->(VforVendetta),
(BenM)-[:ACTED_IN {roles:'[Dascomb]'}]->(VforVendetta),
(JamesM)-[:DIRECTED]->(VforVendetta),
(LillyW)-[:PRODUCED]->(VforVendetta),
(LanaW)-[:PRODUCED]->(VforVendetta),
(JoelS)-[:PRODUCED]->(VforVendetta),
(LillyW)-[:WROTE]->(VforVendetta),
(LanaW)-[:WROTE]->(VforVendetta)

CREATE (SpeedRacer:Movie {title:'Speed Racer', released:2008, tagline:'Speed has no limits'})
CREATE (EmileH:Person {name:'Emile Hirsch', born:1985})
CREATE (JohnG:Person {name:'John Goodman', born:1960})
CREATE (SusanS:Person {name:'Susan Sarandon', born:1946})
CREATE (MatthewF:Person {name:'Matthew Fox', born:1966})
CREATE (ChristinaR:Person {name:'Christina Ricci', born:1980})
CREATE (Rain:Person {name:'Rain', born:1982})
CREATE
(EmileH)-[:ACTED_IN {roles:'[Speed Racer]'}]->(SpeedRacer),
(JohnG)-[:ACTED_IN {roles:'[Pops]'}]->(SpeedRacer),
(SusanS)-[:ACTED_IN {roles:'[Mom]'}]->(SpeedRacer),
(MatthewF)-[:ACTED_IN {roles:'[Racer X]'}]->(SpeedRacer),
(ChristinaR)-[:ACTED_IN {roles:'[Trixie]'}]->(SpeedRacer),
(Rain)-[:ACTED_IN {roles:'[Taejo Togokahn]'}]->(SpeedRacer),
(BenM)-[:ACTED_IN {roles:'[Cass Jones]'}]->(SpeedRacer),
(LillyW)-[:DIRECTED]->(SpeedRacer),
(LanaW)-[:DIRECTED]->(SpeedRacer),
(LillyW)-[:WROTE]->(SpeedRacer),
(LanaW)-[:WROTE]->(SpeedRacer),
(JoelS)-[:PRODUCED]->(SpeedRacer)

CREATE (NinjaAssassin:Movie {title:'Ninja Assassin', released:2009, tagline:'Prepare to enter a secret world of assassins'})
CREATE (NaomieH:Person {name:'Naomie Harris'})
CREATE
(Rain)-[:ACTED_IN {roles:'[Raizo]'}]->(NinjaAssassin),
(NaomieH)-[:ACTED_IN {roles:'[Mika Coretti]'}]->(NinjaAssassin),

(RickY)-[:ACTED_IN {roles:'[Takeshi']}]->(NinjaAssassin),
(BenM)-[:ACTED_IN {roles:'[Ryan Maslow']}]->(NinjaAssassin),
(JamesM)-[:DIRECTED]->(NinjaAssassin),
(LillyW)-[:PRODUCED]->(NinjaAssassin),
(LanaW)-[:PRODUCED]->(NinjaAssassin),
(JoelS)-[:PRODUCED]->(NinjaAssassin)

CREATE (TheGreenMile:Movie {title:'The Green Mile', released:1999, tagline:"Walk a mile you'll never forget."})
CREATE (MichaelD:Person {name:'Michael Clarke Duncan', born:1957})
CREATE (DavidM:Person {name:'David Morse', born:1953})
CREATE (SamR:Person {name:'Sam Rockwell', born:1968})
CREATE (GaryS:Person {name:'Gary Sinise', born:1955})
CREATE (PatriciaC:Person {name:'Patricia Clarkson', born:1959})
CREATE (FrankD:Person {name:'Frank Darabont', born:1959})
CREATE
(TomH)-[:ACTED_IN {roles:'[Paul Edgecomb']}]->(TheGreenMile),
(MichaelD)-[:ACTED_IN {roles:'[John Coffey']}]->(TheGreenMile),
(DavidM)-[:ACTED_IN {roles:'[Brutus "Brutal" Howell']}]->(TheGreenMile),
(BonnieH)-[:ACTED_IN {roles:'[Jan Edgecomb']}]->(TheGreenMile),
(JamesC)-[:ACTED_IN {roles:'[Warden Hal Moores']}]->(TheGreenMile),
(SamR)-[:ACTED_IN {roles:'[Wild Bill" Wharton']}]->(TheGreenMile),
(GaryS)-[:ACTED_IN {roles:'[Burt Hammersmith']}]->(TheGreenMile),
(PatriciaC)-[:ACTED_IN {roles:'[Melinda Moores']}]->(TheGreenMile),
(FrankD)-[:DIRECTED]->(TheGreenMile)

CREATE (FrostNixon:Movie {title:'Frost/Nixon', released:2008, tagline:'400 million people were waiting for the truth.'})
CREATE (FrankL:Person {name:'Frank Langella', born:1938})
CREATE (MichaelS:Person {name:'Michael Sheen', born:1969})
CREATE (OliverP:Person {name:'Oliver Platt', born:1960})
CREATE
(FrankL)-[:ACTED_IN {roles:'[Richard Nixon']}]->(FrostNixon),
(MichaelS)-[:ACTED_IN {roles:'[David Frost']}]->(FrostNixon),
(KevinB)-[:ACTED_IN {roles:'[Jack Brennan']}]->(FrostNixon),
(OliverP)-[:ACTED_IN {roles:'[Bob Zelnick']}]->(FrostNixon),
(SamR)-[:ACTED_IN {roles:'[James Reston, Jr.]'}]->(FrostNixon),
(RonH)-[:DIRECTED]->(FrostNixon)

CREATE (Hoffa:Movie {title:'Hoffa', released:1992, tagline:"He didn't want law. He wanted justice."})
CREATE (DannyD:Person {name:'Danny DeVito', born:1944})
CREATE (JohnR:Person {name:'John C. Reilly', born:1965})
CREATE
(JackN)-[:ACTED_IN {roles:'[Hoffa']}]->(Hoffa),
(DannyD)-[:ACTED_IN {roles:'[Robert "Bobby" Ciaro']}]->(Hoffa),
(JTW)-[:ACTED_IN {roles:'[Frank Fitzsimmons']}]->(Hoffa),
(JohnR)-[:ACTED_IN {roles:'[Peter "Pete" Connelly']}]->(Hoffa),
(DannyD)-[:DIRECTED]->(Hoffa)

CREATE (Apollo13:Movie {title:'Apollo 13', released:1995, tagline:'Houston, we have a problem.'})
CREATE (EdH:Person {name:'Ed Harris', born:1950})
CREATE (BillPax:Person {name:'Bill Paxton', born:1955})
CREATE
(TomH)-[:ACTED_IN {roles:'[Jim Lovell']}]->(Apollo13),
(KevinB)-[:ACTED_IN {roles:'[Jack Swigert']}]->(Apollo13),
(EdH)-[:ACTED_IN {roles:'[Gene Kranz']}]->(Apollo13),
(BillPax)-[:ACTED_IN {roles:'[Fred Haise']}]->(Apollo13),
(GaryS)-[:ACTED_IN {roles:'[Ken Mattingly']}]->(Apollo13),
(RonH)-[:DIRECTED]->(Apollo13)

CREATE (Twister:Movie {title:'Twister', released:1996, tagline:"Don't Breathe. Don't Look Back."})
CREATE (PhilipH:Person {name:'Philip Seymour Hoffman', born:1967})
CREATE (JanB:Person {name:'Jan de Bont', born:1943})
CREATE
(BillPax)-[:ACTED_IN {roles:'[Bill Harding']}]->(Twister),
(HelenH)-[:ACTED_IN {roles:'[Dr. Jo Harding']}]->(Twister),
(ZachG)-[:ACTED_IN {roles:'[Eddie']}]->(Twister),
(PhilipH)-[:ACTED_IN {roles:'[Dustin "Dusty" Davis']}]->(Twister),
(JanB)-[:DIRECTED]->(Twister)

CREATE (CastAway:Movie {title:'Cast Away', released:2000, tagline:'At the edge of the world, his journey begins.'})
CREATE (RobertZ:Person {name:'Robert Zemeckis', born:1951})
CREATE
(TomH)-[:ACTED_IN {roles:'[Chuck Noland']}]->(CastAway),
(HelenH)-[:ACTED_IN {roles:'[Kelly Frears']}]->(CastAway),
(RobertZ)-[:DIRECTED]->(CastAway)

CREATE (OneFlewOvertheCuckoosNest:Movie {title:"One Flew Over the Cuckoo's Nest", released:1975, tagline:"If he's crazy, what does that make you?"})
CREATE (MilosF:Person {name:'Milos Forman', born:1932})
CREATE
(JackN)-[:ACTED_IN {roles:'[Randle McMurphy']}]->(OneFlewOvertheCuckoosNest),

(DannyD)-[:ACTED_IN {roles:'[Martini]'}]->(OneFlewOvertheCuckoosNest),
(MilosF)-[:DIRECTED]->(OneFlewOvertheCuckoosNest)

CREATE (SomethingsGottaGive:Movie {title:"Something's Gotta Give", released:2003})

CREATE (DianeK:Person {name:'Diane Keaton', born:1946})

CREATE (NancyM:Person {name:'Nancy Meyers', born:1949})

CREATE

(JackN)-[:ACTED_IN {roles:'[Harry Sanborn]'}]->(SomethingsGottaGive),
(DianeK)-[:ACTED_IN {roles:'[Erica Barry]'}]->(SomethingsGottaGive),
(Keanu)-[:ACTED_IN {roles:'[Julian Mercer]'}]->(SomethingsGottaGive),
(NancyM)-[:DIRECTED]->(SomethingsGottaGive),
(NancyM)-[:PRODUCED]->(SomethingsGottaGive),
(NancyM)-[:WROTE]->(SomethingsGottaGive)

CREATE (BicentennialMan:Movie {title:'Bicentennial Man', released:1999, tagline:"One robot's 200 year journey to become an ordinary man."})

CREATE (ChrisC:Person {name:'Chris Columbus', born:1958})

CREATE

(Robin)-[:ACTED_IN {roles:'[Andrew Marin]'}]->(BicentennialMan),
(OliverP)-[:ACTED_IN {roles:'[Rupert Burns]'}]->(BicentennialMan),
(ChrisC)-[:DIRECTED]->(BicentennialMan)

CREATE (CharlieWilsonsWar:Movie {title:"Charlie Wilson's War", released:2007, tagline:"A stiff drink. A little mascara. A lot of nerve. Who said they couldn't bring down the Soviet empire."})

CREATE (JuliaR:Person {name:'Julia Roberts', born:1967})

CREATE

(TomH)-[:ACTED_IN {roles:'[Rep. Charlie Wilson]'}]->(CharlieWilsonsWar),
(JuliaR)-[:ACTED_IN {roles:'[Joanne Herring]'}]->(CharlieWilsonsWar),
(PhilipH)-[:ACTED_IN {roles:'[Gust Avrakotos]'}]->(CharlieWilsonsWar),
(MikeN)-[:DIRECTED]->(CharlieWilsonsWar)

CREATE (ThePolarExpress:Movie {title:'The Polar Express', released:2004, tagline:'This Holiday Seasonâ€¢ Believe'})

CREATE

(TomH)-[:ACTED_IN {roles:'[Hero Boy', 'Father', 'Conductor', 'Hobo', 'Scrooge', 'Santa Claus]'}]->(ThePolarExpress),
(RobertZ)-[:DIRECTED]->(ThePolarExpress)

CREATE (ALeagueofTheirOwn:Movie {title:'A League of Their Own', released:1992, tagline:'Once in a lifetime you get a chance to do something different.'})

CREATE (Madonna:Person {name:'Madonna', born:1954})

CREATE (GeenaD:Person {name:'Geena Davis', born:1956})

CREATE (LoriP:Person {name:'Lori Petty', born:1963})

CREATE (PennyM:Person {name:'Penny Marshall', born:1943})

CREATE

(TomH)-[:ACTED_IN {roles:'[Jimmy Dugan]'}]->(ALeagueofTheirOwn),
(GeenaD)-[:ACTED_IN {roles:'[Dottie Hinson]'}]->(ALeagueofTheirOwn),
(LoriP)-[:ACTED_IN {roles:'[Kit Keller]'}]->(ALeagueofTheirOwn),
(RosieO)-[:ACTED_IN {roles:'[Doris Murphy]'}]->(ALeagueofTheirOwn),
(Madonna)-[:ACTED_IN {roles:'[All the Way' Mae Mordabito]'}]->(ALeagueofTheirOwn),
(BillPax)-[:ACTED_IN {roles:'[Bob Hinson]'}]->(ALeagueofTheirOwn),
(PennyM)-[:DIRECTED]->(ALeagueofTheirOwn)

CREATE (PaulBlythe:Person {name:'Paul Blythe'})

CREATE (AngelaScope:Person {name:'Angela Scope'})

CREATE (JessicaThompson:Person {name:'Jessica Thompson'})

CREATE (JamesThompson:Person {name:'James Thompson'})

CREATE

(JamesThompson)-[:FOLLOWS]->(JessicaThompson),
(AngelaScope)-[:FOLLOWS]->(JessicaThompson),
(PaulBlythe)-[:FOLLOWS]->(AngelaScope)

CREATE

(JessicaThompson)-[:REVIEWED {summary:'An amazing journey', rating:95}]->(CloudAtlas),
(JessicaThompson)-[:REVIEWED {summary:'Silly, but fun', rating:65}]->(TheReplacements),
(JamesThompson)-[:REVIEWED {summary:'The coolest football movie ever', rating:100}]->(TheReplacements),
(AngelaScope)-[:REVIEWED {summary:'Pretty funny at times', rating:62}]->(TheReplacements),
(JessicaThompson)-[:REVIEWED {summary:'Dark, but compelling', rating:85}]->(Unforgiven),
(JessicaThompson)-[:REVIEWED {summary:'Slapstick redeemed only by the Robin Williams and Gene Hackman's stellar performances', rating:45}]->(TheBirdcage),

(JessicaThompson)-[:REVIEWED {summary:'A solid romp', rating:68}]->(TheDaVinciCode),

(JamesThompson)-[:REVIEWED {summary:'Fun, but a little far fetched', rating:65}]->(TheDaVinciCode),

(JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]->(JerryMaguire),

(ForrestGump:Movie:OlderMovie {title: 'Forrest Gump', released: 1994, tagline: "Life is like a box of chocolates...you never know what you're gonna get."}),

(RobinW:Person {name: 'Robin Wright', born: 1966}),

(TomH)-[:ACTED_IN {roles: ['Forrest Gump']}]->(ForrestGump),

(GaryS)-[:ACTED_IN {roles: ['Lt. Dan Taylor']}]->(ForrestGump),

(RobinW)-[:ACTED_IN {roles: ['Jenny Curran']}]->(ForrestGump),

(RobertZ)-[:DIRECTED]->(ForrestGump),

(TomH)-[:HELPED]->(GaryS);

```
MATCH (m:Movie)
WHERE m.released < 2010
SET m:OlderMovie
```

Exercise 8: Deleting Nodes and Relationships (Overview)

In the previous exercise, you created relationships between *Person* and *Movie* nodes and you modified the properties for these relationships.

In this exercise you will delete nodes and relationships from the graph.

- **Exercise 8.1:** Delete a relationship.
- **Exercise 8.2:** Confirm that the relationship has been deleted.
- **Exercise 8.3:** Retrieve a movie and all of its relationships.
- **Exercise 8.4:** Try deleting a node without detaching its relationships.
- **Exercise 8.5:** Delete a *Movie* node, along with its relationships.
- **Exercise 8.6:** Confirm that the *Movie* node has been deleted.

Go to the next page to start this exercise.

Exercise 8.1: Delete a relationship (Instructions)

Recall that in the graph we have been working with, we have the *HELPED* relationship between *Tom Hanks* and *Gary Sinise*. We have decided that we no longer need this relationship in the graph.

Delete the *HELPED* relationship from the graph.

Exercise 8.1: Delete a relationship (Solution)

Delete the *HELPED* relationship from the graph.

```
MATCH (:Person)-[rel:HELPED]-(:Person)
DELETE rel
```

The result returned should be:

```
$ MATCH (:Person)-[rel:HELPED]-(:Person) DELETE rel
```



Deleted 1 relationship, completed after 9 ms.

Exercise 8.2: Confirm that the relationship has been deleted (Instructions)

Query the graph to confirm that the relationship no longer exists.

Exercise 8.2: Confirm that the relationship has been deleted (Solution)

Query the graph to confirm that the relationship no longer exists.

```
MATCH (:Person)-[rel:HELPED]-(:Person)
RETURN rel
```

The result returned should be:

```
$ MATCH (:Person)-[rel:HELPED]-(:Person) RETURN rel
```



(no changes, no records)

Exercise 8.3: Retrieve a movie and all of its relationships (Instructions)

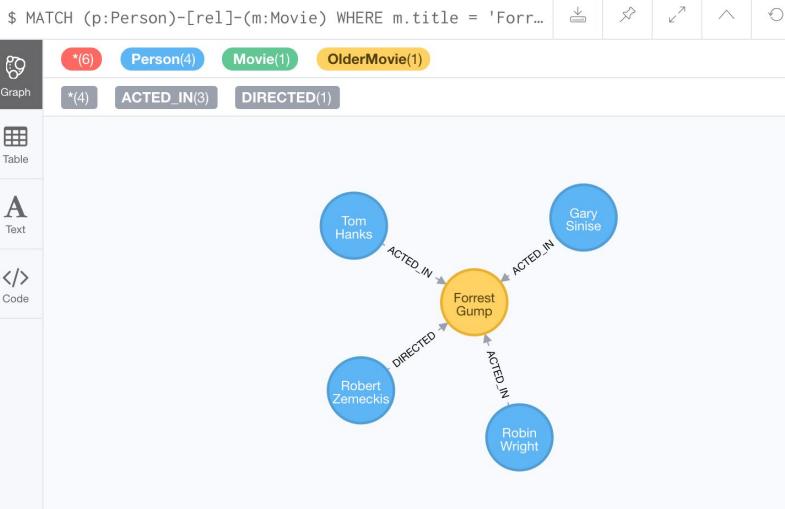
Query the graph to display *Forrest Gump* and all of its relationships.

Exercise 8.3: Retrieve a movie and all of its relationships (Solution)

Query the graph to display *Forrest Gump* and all of its relationships.

```
MATCH (p:Person)-[rel]-(m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN p, rel, m
```

The result returned should be:



Exercise 8.4: Try deleting a node without detaching its relationships (Instructions)

We want to remove the movie, *Forrest Gump* from the graph.

Try deleting the *Forrest Gump* node without detaching its relationships.

Do you receive an error?

Exercise 8.4: Try deleting a node without detaching its relationships (Solution)

Try deleting the *Forrest Gump* node without detaching its relationships.

Do you receive an error?

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
DELETE m
```

The result returned should be:

A screenshot of the Neo4j browser interface. At the top, there is a command line input field containing the query: \$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' DELETE m. Below the input field are several small icons: a magnifying glass, a double arrow, a triangle, a circle, and an X. To the left of the input field is a sidebar with a document icon and the word 'Error'. A red 'ERROR' button is visible. The main content area shows an error message: 'Neo.ClientError.Schema.ConstraintValidationFailed'. Below this, a detailed error message states: 'Neo.ClientError.Schema.ConstraintValidationFailed: Cannot delete node<692>, because it still has relationships. To delete this node, you must first delete its relationships.' At the bottom of the browser window, there is a status bar with the text: '⚠ Neo.ClientError.Schema.ConstraintValidationFailed: Cannot delete node<692>, because it still has relationships...'.

Exercise 8.5: Delete a *Movie* node, along with its relationships (Instructions)

Delete *Forrest Gump*, along with its relationships in the graph.

Exercise 8.5: Delete a *Movie* node, along with its relationships (Solution)

Delete *Forrest Gump*, along with its relationships in the graph.

```
MATCH (m:Movie)
WHERE m.title = 'Forrest Gump'
DETACH DELETE m
```

The result returned should be:

```
$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' DETACH DELETE m
```

A screenshot of the Neo4j browser interface. At the top, there is a command line input field containing the query: \$ MATCH (m:Movie) WHERE m.title = 'Forrest Gump' DETACH DELETE m. Below the input field is a 'Table' icon. The main content area shows a message: 'Deleted 1 node, deleted 4 relationships, completed after 1 ms.' At the bottom of the browser window, there is a status bar with the text: 'Deleted 1 node, deleted 4 relationships, completed after 1 ms.'

Exercise 8.6: Confirm that the *Movie* node has been deleted (Instructions)

Query the graph to confirm that the *Forrest Gump* node has been deleted.

Exercise 8.6: Confirm that the *Movie* node has been deleted (Solution)

Query the graph to confirm that the *Forrest Gump* node has been deleted.

```
MATCH (p:Person)-[rel]-(m:Movie)
WHERE m.title = 'Forrest Gump'
RETURN p, rel, m
```

The result returned should be:

```
$ MATCH (p:Person)-[rel]-(m:Movie) WHERE m.title = 'Forrest Gump' RE... | ⚙
Table (no changes, no records)
```

Exercise 8: Deleting Nodes and Relationships (Summary)

In this exercise you deleted relationships and a node from the graph.

Continue to Exercise 9