

# Database Systems

## Homework 5

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# Movie Catalog

The names of the database objects described below is written based on *SQL Server Standards Naming Conventions V.15* <sup>1</sup>. The fig. 1 was created using the online-tool *GenMyModel* <sup>2</sup>.

## 1 Relationships

- **Movie:**
  - One **Movie** can have one **MovieType**;
  - One **Movie** can have two or many **Stars**.
- **MovieType:** One **MovieType** can have zero, one, or many **Movies**;
- **Star:** One **Star** can have one or many **Movies**;

## 2 Entity-Relationship Diagram

The creation of **MovieStar** is needed in order to satisfy the many-to-many relationship between **Movie** and **Star**.

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<sup>1</sup>[http://www.isbe.net/ILDS/pdf/SQL\\_server\\_standards.pdf](http://www.isbe.net/ILDS/pdf/SQL_server_standards.pdf)

<sup>2</sup><https://repository.genmymodel.com/arkye/IIT-DBS-HWK5>

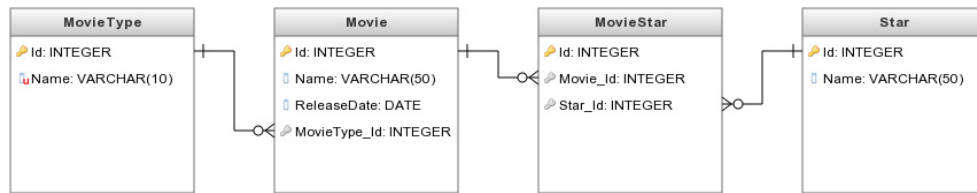


Figure 1: Entity-Relationship Diagram

### 3 Populated Database

Id	Name	ReleaseDate	MovieType_Id
01	Mr. Nobody	2009-09-12	05
02	Fight Club	1999-10-15	05
03	A Clockwork Orange	1972-02-02	01
04	Jonathan Livingston Seagull	1973-10-23	05
05	Monty Python and the Holy Grail	1975-05-23	02
06	V for Vendetta	2006-03-17	03
07	The Matrix	1999-03-31	03
08	The Matrix Revolutions	2003-11-05	03
09	Black Swan	2010-12-17	05
10	Friend with Benefits	2011-07-22	04

Table 1: **Movie** table.

Id	Name
01	Sci-Fi
02	Comedy
03	Action
04	Romance
05	Drama

Table 2: **MovieType** table.

<b>Id</b>	<b>Movie_Id</b>	<b>Star_Id</b>
01	01	01
02	01	02
03	02	03
04	02	04
05	02	01
06	03	05
07	03	06
08	04	07
09	04	08
10	05	09
11	05	10
12	06	11
13	06	12
14	07	13
15	07	14
16	07	11
17	08	13
18	08	14
19	08	11
20	09	12
21	09	15
22	10	15
23	10	16

Table 3: **MovieStar** table.

<b>Id</b>	<b>Name</b>
01	Jared Leto
02	Sarah Polley
03	Brad Pitt
04	Edward Norton
05	Malcolm McDowell
06	Patrick Magee
07	James Franciscus
08	Juliet Mills
09	Graham Chapman
10	John Cleese
11	Hugo Weaving
12	Natalie Portman
13	Keanu Reeves
14	Carrie-Anne Moss
15	Mila Kunis
16	Justin Timberlake

Table 4: **Star** table.

## 4 Showing Data

- **Movie Name:** Mr. Nobody (*#Movie:01*);
  - **Type:** Drama (*#Movie:01*  $\rightarrow$  *#MovieType:05*);
  - **Release Date:** 09/12/2009 (*#Movie:01*);
  - **Stars:**
    - Jared Leto (*#Movie:01*  $\leftarrow$  *#MovieStar:01*  $\rightarrow$  *#Star:01*);
    - Sarah Polley (*#Movie:01*  $\leftarrow$  *#MovieStar:02*  $\rightarrow$  *#Star:02*);
- **Movie Name:** Fight Club (*#Movie:02*);
  - **Type:** Drama (*#Movie:02*  $\rightarrow$  *#MovieType:05*);
  - **Release Date:** 10/15/1999 (*#Movie:02*);
  - **Stars:**
    - Brad Pitt (*#Movie:02*  $\leftarrow$  *#MovieStar:03*  $\rightarrow$  *#Star:03*);

- Edward Norton ( $\#Movie:02 \leftarrow \#MovieStar:04 \rightarrow \#Star:04$ );
  - Jared Leto ( $\#Movie:02 \leftarrow \#MovieStar:05 \rightarrow \#Star:01$ );
3.   • **Movie Name:** A Clockwork Orange ( $\#Movie:03$ );
- **Type:** Sci-Fi ( $\#Movie:03 \rightarrow \#MovieType:01$ );
  - **Release Date:** 02/02/1972 ( $\#Movie:03$ );
  - **Stars:**
    - Malcolm McDowell ( $\#Movie:03 \leftarrow \#MovieStar:06 \rightarrow \#Star:05$ );
    - Patrick Magee ( $\#Movie:03 \leftarrow \#MovieStar:07 \rightarrow \#Star:06$ );
4.   • **Movie Name:** Jonathan Livingston Seagull ( $\#Movie:04$ );
- **Type:** Drama ( $\#Movie:04 \rightarrow \#MovieType:05$ );
  - **Release Date:** 10/23/1973 ( $\#Movie:04$ );
  - **Stars:**
    - James Franciscus ( $\#Movie:04 \leftarrow \#MovieStar:08 \rightarrow \#Star:07$ );
    - Juliet Mills ( $\#Movie:04 \leftarrow \#MovieStar:09 \rightarrow \#Star:08$ );
5.   • **Movie Name:** Monty Python and the Holy Grail ( $\#Movie:05$ );
- **Type:** Comedy ( $\#Movie:05 \rightarrow \#MovieType:02$ );
  - **Release Date:** 05/23/1975 ( $\#Movie:05$ );
  - **Stars:**
    - Graham Chapman ( $\#Movie:05 \leftarrow \#MovieStar:10 \rightarrow \#Star:09$ );
    - John Cleese ( $\#Movie:05 \leftarrow \#MovieStar:11 \rightarrow \#Star:10$ );
6.   • **Movie Name:** V for Vendetta ( $\#Movie:06$ );
- **Type:** Action ( $\#Movie:06 \rightarrow \#MovieType:03$ );
  - **Release Date:** 03/17/2006 ( $\#Movie:06$ );
  - **Stars:**
    - Hugo Weaving ( $\#Movie:06 \leftarrow \#MovieStar:12 \rightarrow \#Star:11$ );
    - Natalie Portman ( $\#Movie:06 \leftarrow \#MovieStar:13 \rightarrow \#Star:12$ );
7.   • **Movie Name:** The Matrix ( $\#Movie:07$ );
- **Type:** Action ( $\#Movie:07 \rightarrow \#MovieType:03$ );

- **Release Date:** 03/31/1999 ( $\#Movie:07$ );
  - **Stars:**
    - Keanu Reeves ( $\#Movie:07 \leftarrow \#MovieStar:14 \rightarrow \#Star:13$ );
    - Carrie-Anne Moss ( $\#Movie:07 \leftarrow \#MovieStar:15 \rightarrow \#Star:14$ );
    - Hugo Weaving ( $\#Movie:07 \leftarrow \#MovieStar:16 \rightarrow \#Star:11$ );
8. • **Movie Name:** The Matrix Revolutions ( $\#Movie:08$ );
- **Type:** Action ( $\#Movie:08 \rightarrow \#MovieType:03$ );
  - **Release Date:** 11/05/2003 ( $\#Movie:08$ );
  - **Stars:**
    - Keanu Reeves ( $\#Movie:08 \leftarrow \#MovieStar:17 \rightarrow \#Star:13$ );
    - Carrie-Anne Moss ( $\#Movie:08 \leftarrow \#MovieStar:18 \rightarrow \#Star:14$ );
    - Hugo Weaving ( $\#Movie:08 \leftarrow \#MovieStar:19 \rightarrow \#Star:11$ );
9. • **Movie Name:** Black Swan ( $\#Movie:09$ );
- **Type:** Drama ( $\#Movie:09 \rightarrow \#MovieType:05$ );
  - **Release Date:** 12/17/2010 ( $\#Movie:09$ );
  - **Stars:**
    - Natalie Portman ( $\#Movie:09 \leftarrow \#MovieStar:20 \rightarrow \#Star:12$ );
    - Mila Kunis ( $\#Movie:09 \leftarrow \#MovieStar:21 \rightarrow \#Star:15$ );
10. • **Movie Name:** Friend with Benefits ( $\#Movie:10$ );
- **Type:** Romance ( $\#Movie:10 \rightarrow \#MovieType:04$ );
  - **Release Date:** 07/22/2011 ( $\#Movie:10$ );
  - **Stars:**
    - Mila Kunis ( $\#Movie:10 \leftarrow \#MovieStar:22 \rightarrow \#Star:15$ );
    - Justin Timberlake ( $\#Movie:10 \leftarrow \#MovieStar:23 \rightarrow \#Star:16$ );