

Assignment 2 – Logical Modeling

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IS 6420: Database Theory and Design

Video Rental Database Logical Model

Task 1 – Process Normal Entity Types

Actor

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Gender
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Film

<u>Release_Year</u>	<u>Title</u>	Duration
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Director

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Country_of_Birth
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Copy?

<u>Copy_Number</u>	Condition
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Task 2 – Process weak Entity Types

Actor

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Gender
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Film

<u>Release_Year</u>	<u>Title</u>	Duration
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Director

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Country_of_Birth
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Copy

Condition	<u>Copy_Number</u>	<u>Film_Release_Year</u>	<u>Film_Title</u>
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Composite primary key

Task 3 – Process 1-to-m Relationship Types

Actor

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Gender
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Film_Actor

Role

Film

<u>Release_Year</u>	<u>Title</u>	Duration	Director_First_Name	Director_Middle_Name	Director_Last_Name	Director_DOB
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Director

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Country_of_Birth
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Condition	<u>Copy_Number</u>	<u>Film_Release_Year</u>	<u>Film_Title</u>
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Composite primary key

Composite primary key

Task 4 – Process m-to-m Relationship Types

Actor

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Gender
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Film_Actor

Role	<u>Actor_First_Name</u>	<u>Actor_Middle_Name</u>	<u>Actor_Last_Name</u>	<u>Actor_Date_of_Birth</u>	<u>Film_Release_Year</u>	<u>Film_Title</u>
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Foreign Key

Foreign Key

Film

<u>Release_Year</u>	<u>Title</u>	Duration	<u>Director_First_Name</u>	<u>Director_Middle_Name</u>	<u>Director_Last_Name</u>	<u>Director_DOB</u>
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Composite primary key

Director

<u>First_Name</u>	<u>Middle_Name</u>	<u>Last_Name</u>	<u>Date_of_Birth</u>	Country_of_Birth
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Copy

Condition	<u>Copy_Number</u>	<u>Film_Release_Year</u>	<u>Film_Title</u>
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Composite primary key

Composite primary key

Task 5 – Process 1-to-1 Relationship Types

Nothing to submit

Task 6 – Process Unary Relationship Types

Nothing to submit

Task 7 – Process n-ary Relationship Types

Nothing to submit

Task 8 – Process Supertypes/Subtypes

Film

<u>Release_Year</u>	<u>Title</u>	Duration	Director_First_Name	Director_Middle_Name	Director_Last_Name	Director_DOB
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Educational

<u>Film_Release_Year</u>	<u>Film_Title</u>	<u>Educational_Category</u>
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Foreign Key

Foreign

<u>Film_Release_Year</u>	<u>Film_Title</u>	Non_English_Language
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Foreign Key

Task 9 – Process Multi-valued Attributes

Foreign

<u>Film_Release_Year</u>	<u>Film_Title</u>
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Foreign_Non_English_Language

<u>Film_Release_Year</u>	<u>Film_Title</u>	<u>Non_English_Language</u>
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