Katie Goyal

3.2 Data Storage Answers

Step 2 A chart with text and images

Description automatically generated with medium confidence

Step 3

1. **Snowflake schema or Star schema**

* This is a snowflake schema because there is no centralized data source and all the data has connections to one another and not just a central data.

1. **Fact tables and Dimension Tables**

Fact Tables:

* **Rental**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| RENTAL\_ID | INTEGER | The unique identifier for a rental |
| RENTAL\_DATE | TIMESTAMP | The date and time the rental was made |
| INVENTORY\_ID | INTEGER | The identifier for inventory items |
| CUSTOMER\_ID | SMALLINT | The identifier for the customer |
| RETURN\_DATE | TIMESTAMP | The date and time the rental was returned |
| STAFF\_ID | TINYINT | The identifier for the staff member who processed the rental |
| LAST\_UPDATE | TIMESTAMP | The date and time the record was last updated |

* **Film Actor**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| ACTOR\_ID | SMALLINT | The unique identifier for an actor |
| FILM\_ID | SMALLINT | The unique identifier for a film |
| LAST\_UPDATE | TIMESTAMP | The date and time the record was last updated |

* **Film Category**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **FILM\_ID** | **SMALLINT** | **The unique identifier for a film** |
| **CATEGORY\_ID** | **TINYINT** | **The unique identifier for a category** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time the record was last updated** |

* **Inventory**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **INVENTORY\_ID** | **INTEGER** | **The unique identifier for an inventory item** |
| **FILM\_ID** | **SMALLINT** | **The unique identifier for a film associated with an inventory item** |
| **STORE\_ID** | **TINYINT** | **The unique identifier for a store where the inventory item is located** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time the inventory record was last updated** |

* **Customer**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **CUSTOMER\_ID** | **SMALLINT** | **The unique identifier for a customer** |
| **STORE\_ID** | **TINYINT** | **The identifier for the store associated with the customer** |
| **FIRST\_NAME** | **CHARACTER VARYING(45)** | **The first name of the customer** |
| **LAST\_NAME** | **CHARACTER VARYING(45)** | **The last name of the customer** |
| **EMAIL** | **CHARACTER VARYING(50)** | **The email address of the customer** |
| **ADDRESS\_ID** | **SMALLINT** | **The identifier for the customer's address** |
| **ACTIVE** | **BOOLEAN** | **Indicates whether the customer's account is active (true or false)** |
| **CREATE\_DATE** | **TIMESTAMP** | **The date and time when the customer account was created** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time when the customer record was last updated** |

* **Payments**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **PAYMENT\_ID** | **SMALLINT** | **The unique identifier for a payment transaction** |
| **CUSTOMER\_ID** | **SMALLINT** | **The identifier for the customer making the payment** |
| **STAFF\_ID** | **TINYINT** | **The identifier for the staff member processing the payment** |
| **RENTAL\_ID** | **INTEGER** | **The identifier for the rental transaction associated with the payment** |
| **AMOUNT** | **DECIMAL(5,2)** | **The amount of the payment** |
| **PAYMENT\_DATE** | **TIMESTAMP** | **The date and time when the payment was made** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time when the payment record was last updated** |

* **Film**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **FILM\_ID** | **SMALLINT** | **The unique identifier for a film** |
| **TITLE** | **CHARACTER VARYING(128)** | **The title of the film** |
| **DESCRIPTION** | **CHARACTER LARGE OBJECT** | **A detailed description or synopsis of the film** |
| **RELEASE\_YEAR** | **SMALLINT** | **The year the film was released** |
| **LANGUAGE\_ID** | **TINYINT** | **The identifier for the language of the film** |
| **ORIGINAL\_LANGUAGE\_ID** | **TINYINT** | **The identifier for the original language of the film (if different)** |
| **RENTAL\_DURATION** | **TINYINT** | **The standard number of days for renting the film** |
| **RENTAL\_RATE** | **DECIMAL(4,2)** | **The cost of renting the film** |
| **LENGTH** | **SMALLINT** | **The running time of the film in minutes** |
| **REPLACEMENT\_COST** | **DECIMAL(5,2)** | **The cost to replace the film** |
| **RATING** | **ENUM** | **The audience rating of the film** |
| **SPECIAL\_FEATURES** | **CHARACTER VARYING(256)** | **Any special features or content that comes with the film** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time the film record was last updated** |

* **Category**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **CATEGORY\_ID** | **TINYINT** | **The unique identifier for a film category** |
| **NAME** | **CHARACTER VARYING(25)** | **The name of the category** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time the category record was last updated** |

* **Store**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| STORE\_ID | TINYINT | The unique identifier for a store |
| MANAGER\_STAFF\_ID | TINYINT | The identifier for the staff member who manages the store |
| ADDRESS\_ID | SMALLINT | The identifier for the address of the store |
| LAST\_UPDATE | TIMESTAMP | The date and time the store record was last updated |

* **Film List**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **FID** | **SMALLINT** | **Unique identifier for the film** |
| **TITLE** | **CHARACTER VARYING(128)** | **Title of the film** |
| **DESCRIPTION** | **CHARACTER LARGE OBJECT** | **Detailed description of the film** |
| **CATEGORY** | **CHARACTER VARYING(25)** | **Genre or category of the film** |
| **PRICE** | **DECIMAL(4,2)** | **Rental price of the film** |
| **LENGTH** | **SMALLINT** | **Runtime of the film in minutes** |
| **RATING** | **ENUM** | **Film rating (e.g., G, PG, PG-13, R)** |
| **ACTORS** | **CHARACTER VARYING(1000000000)** | **List of actors in the film** |

* **Customer List**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **ID** | **SMALLINT** | **Unique identifier for the customer** |
| **NAME** | **CHARACTER VARYING(91)** | **Full name of the customer** |
| **ADDRESS** | **CHARACTER VARYING(50)** | **Address of the customer** |
| **ZIP CODE** | **CHARACTER VARYING(10)** | **ZIP code for the customer's address** |
| **PHONE** | **CHARACTER VARYING(20)** | **Phone number of the customer** |
| **CITY** | **CHARACTER VARYING(50)** | **City where the customer resides** |
| **COUNTRY** | **CHARACTER VARYING(50)** | **Country where the customer resides** |
| **NOTES** | **CHARACTER VARYING(6)** | **Additional notes or information** |
| **SID** | **TINYINT** | **Secondary identifier for the customer** |

* **Staff List**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **ID** | **TINYINT** | **Unique identifier for the staff member** |
| **NAME** | **CHARACTER VARYING(91)** | **Full name of the staff member** |
| **ADDRESS** | **CHARACTER VARYING(50)** | **Address of the staff member** |
| **ZIP CODE** | **CHARACTER VARYING(10)** | **ZIP code of the staff member's address** |
| **PHONE** | **CHARACTER VARYING(20)** | **Phone number of the staff member** |
| **CITY** | **CHARACTER VARYING(50)** | **City where the staff member resides** |
| **COUNTRY** | **CHARACTER VARYING(50)** | **Country where the staff member resides** |
| **SID** | **TINYINT** | **Secondary ID, possibly for system use** |

* **Film text**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **FILM\_ID** | **SMALLINT** | **Unique identifier for a film** |
| **TITLE** | **CHARACTER VARYING(255)** | **The title of the film** |
| **DESCRIPTION** | **CHARACTER LARGE OBJECT** | **A detailed description of the film** |

* **Sales by store**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **STORE** | **CHARACTER VARYING(101)** | **The name or identifier of the store** |
| **MANAGER** | **CHARACTER VARYING(91)** | **The name of the store's manager** |
| **TOTAL\_SALES** | **NUMERIC(15,2)** | **The total sales amount for the store** |

* **Sales by film category**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **CATEGORY** | **CHARACTER VARYING(25)** | **The name of the film category** |
| **TOTAL\_SALES** | **NUMERIC(15,2)** | **The total sales for the film category in dollars** |
| **RENTALS** | **BIGINT** | **The total number of rentals for the film category** |

* **Staff**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **STAFF\_ID** | **TINYINT** | **Unique identifier for a staff member** |
| **FIRST\_NAME** | **CHARACTER VARYING(45)** | **First name of the staff member** |
| **LAST\_NAME** | **CHARACTER VARYING(45)** | **Last name of the staff member** |
| **ADDRESS\_ID** | **SMALLINT** | **Unique identifier for the staff's address** |
| **PICTURE** | **BINARY LARGE OBJECT** | **Binary data for the staff member's picture** |
| **EMAIL** | **CHARACTER VARYING(50)** | **Email address of the staff member** |
| **STORE\_ID** | **TINYINT** | **Identifier for the store the staff works at** |
| **ACTIVE** | **BOOLEAN** | **Status of the staff member's employment** |
| **USERNAME** | **CHARACTER VARYING(16)** | **Chosen username for the staff member** |
| **PASSWORD** | **CHARACTER VARYING(40)** | **Encrypted password for the staff member** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The last time the staff record was updated** |
| **BACKUP\_ID** | **TINYINT** | **Backup identifier, potentially for system use** |

* **Address**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **ADDRESS\_ID** | **SMALLINT** | **Unique identifier for the address** |
| **ADDRESS** | **CHARACTER VARYING(50)** | **The first line of the address** |
| **ADDRESS2** | **CHARACTER VARYING(50)** | **The second line of the address (optional)** |
| **DISTRICT** | **CHARACTER VARYING(20)** | **District or area of the address** |
| **CITY\_ID** | **SMALLINT** | **Unique identifier for the city** |
| **POSTAL\_CODE** | **CHARACTER VARYING(10)** | **Postal or ZIP code for the address** |
| **PHONE** | **CHARACTER VARYING(20)** | **Contact phone number for the address** |
| **LOCATION** | **GEOMETRY(GEOMETRY,0)** | **Geospatial data for the address** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The last time the record was updated** |

* **City**

| **Column** | **Data Type** | **Description of the data** |
| --- | --- | --- |
| **CITY\_ID** | **SMALLINT** | **Unique identifier for a city** |
| **CITY** | **CHARACTER VARYING(50)** | **Name of the city** |
| **COUNTRY\_ID** | **SMALLINT** | **Unique identifier for a country** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The last time the city information updated** |

* **Country**

| **Column** | **Data Type** | **Description of the Data** |
| --- | --- | --- |
| **COUNTRY\_ID** | **SMALLINT** | **The unique identifier for a country** |
| **COUNTRY** | **CHARACTER VARYING(50)** | **The name of the country** |
| **LAST\_UPDATE** | **TIMESTAMP** | **The date and time the country record was last updated** |

**Step 4**

1. **Which actors brought Rock buster the most revenue?**

Rental – Payment – Inventory – Film Actor – Actor

1. **What language are the majority of movies in the collection?**

Inventory – Film – Language