

Part A:

Final Project Description:

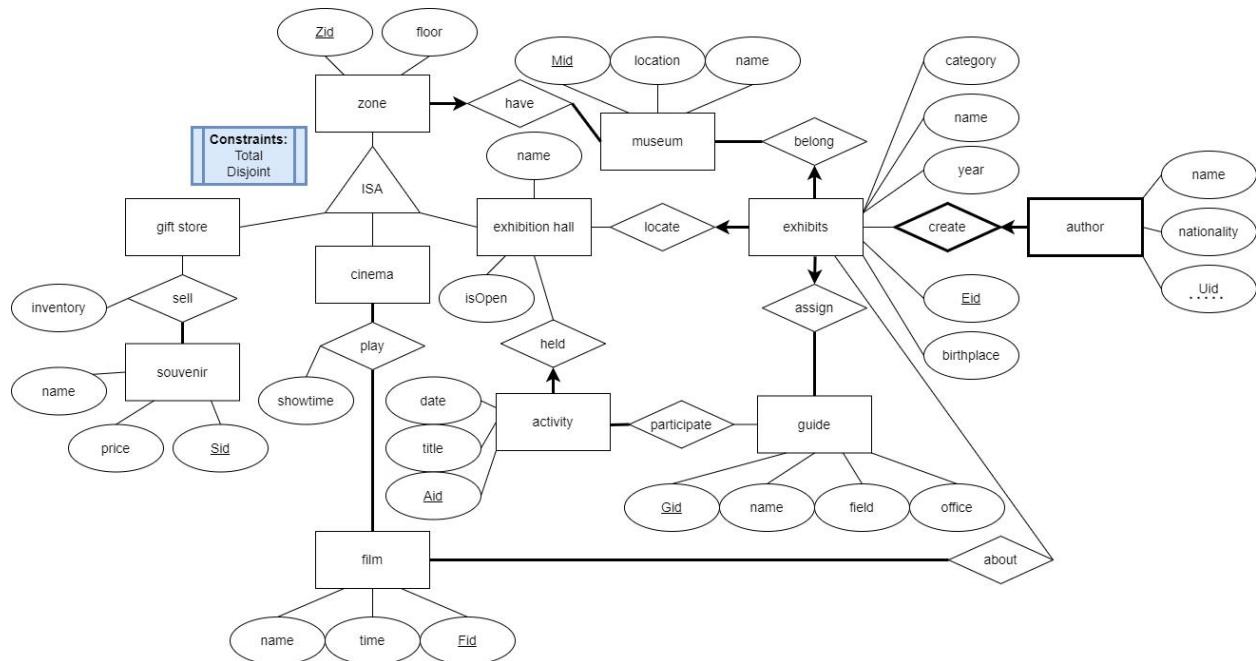
We created a Museum Management Database Project.

This database keeps information for 6 museums. Museums are identified by an unique **id**, and has a **name** and a **location**. In each museum there are different **zones**, including **exhibition halls**, **gift store**, and **cinema**. Each exhibition hall has a **name**, the **floor** it is located on, **whether it is open or not**. Exhibition halls are used to show **exhibits** and **host activities**. **Exhibits** (with **ID**, **title**, **birthplace**, **category**, and the **year** it was created) belong to the museum, and each exhibit has an **artist** (with a unique **id**, **name**, and **nationality**). Activities (with an unique **id**, **dates**, and **title**) are held in exhibition halls. Guides (with an unique **id**, **name**, and **field of speciality**) participates in activities and are in Assign of the exhibits. The cinema and the gift store are also a part of the museum. The cinema plays films (with a unique **id** and **name**) at specified **time**, and films are about the exhibits. The gift store sells souvenirs, and each souvenir has a unique **id**, **name** and **inventory**.

With this information, the functionality of our project would serve as a tool to help staff members of a museum maintain the normal operation of the museum and introduce the visitors to the exhibits in the museum.

Our project is to uses Java on IntelliJ Ultimate, MySQL on Oracle, and GitHub.

ER diagram (has not changed since the first milestone):



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Part B:

Our schema has slightly changed since the second milestone.

First of all the naming of the tables were simplified due to reading our ta feedback from Jason. We renamed every table that had “&” symbols in it with only the first word before the symbol and a number at the end.

Original:

Author&Create1(Uid: int, *name*: char(50), nationality: char(50))

Final:

Author1(Uid: int, *name*: char(50), nationality: char(50))

Then we made some slight changes to some individual tables:

The first change was the Exhibits4 table. Originally we had:

Exhibits4(**Mid**: int, Zid: int),

and we changed it to:

Exhibits4(**Mid**: int, Zid: int),

due to realizing a mistake made in the normalization process while inserting two examples where both exhibits were exhibited in the same museum but different exhibition halls.

Then we changed originally:

ExhibitionHall(Zid: int, **Mid**: int, floor: char(10), isOpen: bool, *name*: char(50))

to:

ExhibitionHall(Zid: int, **Mid**: int, floor: char(10), isOpen: char(5), *name*: char(50))

due to realizing that a boolean type doesn't exist in mySql.

And also originally:

Activity(Aid: int, **Zid**: int, *title*: char(50), date: date)

to:

Activity(Aid: int, **Zid**: int, *title*: char(50), date: char(15))

due to encountering problems implementing the date type without the hour minute and second in the database.

And lastly:

Souvenir(Sid: int, *name*: char(50), price: double)

to:

Souvenir(Sid: int, *name*: char(50), price: decimal)

due to finding that a type double doesn't exist in mySql.

Part C:

The schema (PK underlined, CK is italic, FK is bold)

Here are the detailed schemas we planned:

Museum(Mid: int, location: char(80), *name*: char(50))

ExhibitionHall(Zid: int, **Mid**: int, floor: char(10), isOpen: char(5), *name*: char(50))

Cinema(Zid: int, **Mid**: int, floor: char(10))

GiftStore(Zid: int, **Mid**: int, floor: char(10))

Guide1(Gid: int, *name*: char(50), field: char(50))

Guide2(field: char(50), office: char(50))

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```
Exhibits2(Gid: int, category: char(50))
Exhibits3(Eid: int, Mid: int, Gid: int, birthplace: char(50),
year: char(10), name: char(50))
Exhibits4(Mid: int, Zid: int)
Author1(Uid: int, name: char(50), nationality: char(50))
Author2(Uid: int, Eid: int)
Activity(Aid: int, Zid: int, title: char(50), date: char(15))
Participate(Aid: int, Gid: int)
Film(Fid: int, time: int, name: char(50))
Play(Fid: int, Zid: int, showtime: char(50))
About(Fid: int, Eid: int)
Souvenir(Sid: int, name: char(50), price: decimal)
Sell(Sid: int, Zid: int, inventory: int)
```

And here are the schemas oracle returned to us:

SQL> describe museum		
Name	Null?	Type
MID	NOT NULL	NUMBER(38)
LOCATION	NOT NULL	VARCHAR2(80)
MNAME		VARCHAR(50)

SQL> describe exhibitionhall		
Name	Null?	Type
ZID	NOT NULL	NUMBER(38)
FLOOR	NOT NULL	CHAR(10)
ISOPEN	NOT NULL	CHAR(5)
ZNAME		CHAR(50)
MID	NOT NULL	NUMBER(38)

SQL> describe cinema		
Name	Null?	Type
ZID	NOT NULL	NUMBER(38)
FLOOR	NOT NULL	CHAR(10)
MID	NOT NULL	NUMBER(38)

SQL> describe giftstore		
Name	Null?	Type
ZID	NOT NULL	NUMBER(38)
FLOOR	NOT NULL	CHAR(10)
MID	NOT NULL	NUMBER(38)

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```
SQL> describe guide1
Name          Null?    Type
-----          -----
GID           NOT NULL NUMBER(38)
GNAME          CHAR(50)
FIELD          NOT NULL CHAR(50)
```

```
SQL> describe guide2
Name          Null?    Type
-----          -----
FIELD          NOT NULL CHAR(50)
OFFICE         NOT NULL CHAR(50)
```

```
SQL> describe exhibits2
Name          Null?    Type
-----          -----
CATEGORY      NOT NULL CHAR(50)
GID           NOT NULL NUMBER(38)
```

```
SQL> describe exhibits3
Name          Null?    Type
-----          -----
EID           NOT NULL NUMBER(38)
BIRTHPLACE     CHAR(50)
EYEAR          CHAR(10)
ENAME          CHAR(50)
ZID           NOT NULL NUMBER(38)
GID           NOT NULL NUMBER(38)
```

```
SQL> describe exhibits4
Name          Null?    Type
-----          -----
MID           NOT NULL NUMBER(38)
ZID           NOT NULL NUMBER(38)
```

```
SQL> describe Author1
Name          Null?    Type
-----          -----
RID           NOT NULL NUMBER(38)
UNAME          CHAR(50)
NATION         CHAR(50)
```

```
SQL> describe Author2
Name          Null?    Type
-----          -----
RID           NOT NULL NUMBER(38)
EID           NOT NULL NUMBER(38)
```

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```
SQL> describe activity
Name          Null?    Type
-----        -----
AID           NOT NULL NUMBER(38)
TITLE         CHAR(80)
ADATE         NOT NULL CHAR(15)
ZID           NOT NULL NUMBER(38)
```

```
SQL> describe participate
Name          Null?    Type
-----        -----
AID           NOT NULL NUMBER(38)
GID           NOT NULL NUMBER(38)
```

```
SQL> describe film
Name          Null?    Type
-----        -----
FID           NOT NULL NUMBER(38)
FTIME         NOT NULL NUMBER(38)
FNAME         CHAR(50)
```

```
SQL> describe play
Name          Null?    Type
-----        -----
SHOWTIME      NOT NULL CHAR(50)
FID           NOT NULL NUMBER(38)
ZID           NOT NULL NUMBER(38)
```

```
SQL> describe about
Name          Null?    Type
-----        -----
FID           NOT NULL NUMBER(38)
EID           NOT NULL NUMBER(38)
```

```
SQL> describe souvenir
Name          Null?    Type
-----        -----
SID           NOT NULL NUMBER(38)
SNAME         CHAR(50)
PRICE         NOT NULL NUMBER(38)
```

```
SQL> describe sell
Name          Null?    Type
-----        -----
INVENTORY     NOT NULL NUMBER(38)
SID           NOT NULL NUMBER(38)
ZID           NOT NULL NUMBER(38)
```

After the initialization script is run, here are some screenshots of the data in the tables in the gui:

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This is the data in the museum table:

SQL Query used: SELECT * FROM Museum

The screenshot shows a software interface titled "Museum Data Management". On the left, there is a tree view under "Settings" with categories like Museum, Museums, Exhibition Halls, Activities, Guides, Exhibits, Films, and Souvenirs. The main area is a table titled "Table" with columns: MID, LOCATION, and MNAME. There are 6 rows of data:

MID	LOCATION	MNAME
1001	6339 Stores Rd	Pacific Museum of Earth
1002	2312 Main Mall	Beatty Biodiversity Museum
1003	6399 MM Marine Dr	Museum of Anthropology at UBC
1004	1575 Alma St	Old Hastings Mill Store Museum
1005	2545 Blanca St	BC Golf Museum
1006	680 17th St	West Vancouver Art Museum

This is the data in with respect to Exhibition Halls in a specific museum:

SQL Query used:

```
SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum  
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific Museum of  
Earth'
```

The screenshot shows a software interface titled "Museum Data Management". On the left, there is a tree view under "Settings" with categories like Museum, Museums, Exhibition Halls, Activities, Guides, Exhibits, Films, and Souvenirs. The main area is a table titled "Table" with columns: HALL_NAME, ZOON_ID, ISOPEN, and FLOOR. There are 2 rows of data:

HALL_NAME	ZOON_ID	ISOPEN	FLOOR
Hominin Hall	2011	true	ground
Weather Alley	2012	true	ground

SQL query used:

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```
SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum  
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Beatty Biodiversity  
Museum'
```

The screenshot shows a database management interface with a sidebar navigation menu and a main table view. The sidebar on the left contains a tree structure with categories like 'Museum' and 'Exhibition Halls'. Under 'Exhibition Halls', several options are listed, with 'Beatty Biodiversity Museum' being highlighted. The main area displays a table titled 'Table' with columns: HALL_NAME, ZOON_ID, ISOPEN, and FLOOR. Two rows are present: 'The Studio Hall' (ZID 2021) and 'Blue Whale Display Hall' (ZID 2022). Buttons for 'Add data' and 'Remove data' are visible at the top right of the table area.

HALL_NAME	ZOON_ID	ISOPEN	FLOOR
The Studio Hall	2021	true	ground
Blue Whale Display Hall	2022	true	around

This is the data in the Activity Table:

SQL Query used:

The screenshot shows a database management interface with a sidebar navigation menu and a main table view. The sidebar on the left contains a tree structure with categories like 'Activity' and 'Activities'. The main area displays a table titled 'Table' with columns: AID, TITLE, ADATE, and ZID. Multiple rows of activity data are listed, such as 'Meet Big Blasf' (AID 4021, ZID 2022) and 'The Curious World of Seaweed' (AID 4022, ZID 2021). Buttons for 'Add data' and 'Remove data' are visible at the top right of the table area.

AID	TITLE	ADATE	ZID
4011	Welcome to your family reunion!	2022-03-02	2011
4021	Meet Big Blasf	2010-05-01	2022
4022	The Curious World of Seaweed	2022-05-15	2021
4031	The Great Hall Renewal Project	2020-12-29	2031
4041	Vancouver in Fashion, the 1950s	2022-04-09	2041
4051	125 Years of Women's Golf in BC	2017-10-18	2051
4061	Rabbit Lane: Douglas Coupland	2022-03-30	2061
4062	A Twist of the Rules: The Architecture of...	2022-06-08	2061
4063	Martha Sturdy: All Fall Down	2022-10-22	2061

This is the data in the Exhibits Table:

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Museum Data Management

Settings Table Add data Remove data

Exhibit Exhibits

ENAME	EID	BIRTHPLACE	BIRTH_YEAR	CATEGORY
Big whale	6001	Nail Pond, Prince Edward Island	2010	archaeology
Human Skull	6002			anthropology
Eagle Harbour	6003	British Columbia, Canada	1973	architecture
Sculpture	6004	British Columbia, Canada	2000	art
Girffriend in a Come	6005	British Columbia, Canada	1998	art
The Curious World of Seaweed	6006	Canada		archaeology
The Great Hall in Renewal	6007	British Columbia, Canada		architecture
Outfit 1 of Women's 1950s fashi	6008	Canada	1950	fashion
Outfit 2 of Women's 1950s fashi	6009	Canada	1950	fashion
Outfit 3 of Women's 1950s fashi	6010	Canada	1950	fashion
Golf trophies	6011	Canada		golf history
Golf clothing 125 years ago	6012	Canada		golf history

This is the data in the films table:

Museum Data Management

Settings Table Add data Remove data

Film Films

FNAME	TIME	FID	ABOUT_EXHIBIT
Background of Douglas Coupland	45	5161	Girffriend in a Come
Fashion in the 1950s	30	5141	Outfit 3 of Women's 1950s fashi
Where did we come from?	20	5111	Human Skull
Seaweeds!	30	5122	The Curious World of Seaweed
Fashion in the 1950s	30	5141	Outfit 1 of Women's 1950s fashi
Golf in the 1950s	30	5141	Outfit 2 of Women's 1950s fashi
Golf Glory	30	5151	Golf trophies
Story of the Big Blue	60	5121	Big whale
Background of Paul Merrick	20	5162	Eagle Harbour
Background of Martha Sturdy	25	5163	Sculpture
Golf Glory	30	5151	Golf clothing 125 years ago
History of the Great Hall	30	5131	The Great Hall in Renewal

This is the data in the Souvenirs table:

Museum Data Management

Settings Table Add data Remove data

Souvenir Souvenirs

SNAME	SID	PRICE	TOTAL_INVENTORY
Golf Ball	5204	30	30
Paul's Building Micromodel	5205	150	35
Dinosaur Mug	5202	16	50
Big Whale Key Chain	5201	20	100
Handcrafted gifts	5208	15	200
Your Skull Model	5206	80	80
Great Hall Blueprint	5207	35	100

Part D:

A list of all queries used when we run our project:

SELECT Mname FROM Museum

SELECT Mname FROM Museum

SELECT * FROM Museum

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SELECT Mname FROM Museum

SELECT Mname FROM Museum

SELECT DISTINCT TITLE, ADATE AS Activity_Date, AID, ZNAME AS Location FROM Activity, Museum, EXHIBITIONHALL

WHERE Activity.ZID = EXHIBITIONHALL.ZID AND EXHIBITIONHALL.MID = Museum.MID AND Museum.Mname = 'Pacific Museum of Earth'

SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific Museum of Earth'

SELECT DISTINCT GUIDE1.GID AS GID, GNAME AS Guide_name, GUIDE2.FIELD AS Field, OFFICE FROM GUIDE1, GUIDE2, EXHIBITS3, EXHIBITS4, MUSEUM
WHERE GUIDE1.FIELD = GUIDE2.FIELD AND GUIDE1.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID
AND MUSEUM.MNAME = 'Pacific Museum of Earth'

SELECT DISTINCT ENAME, BIRTHPLACE, EYEAR, CATEGORY FROM EXHIBITS2, EXHIBITS3, EXHIBITS4, MUSEUM
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific Museum of Earth'

SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY, CINEMA, MUSEUM
WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific Museum of Earth'

SELECT DISTINCT SNAME, PRICE, INVENTORY, SELL.SID AS SID FROM SOUVENIR, SELL, GIFTSTORE, MUSEUM
WHERE SOUVENIR.SID = SELL.SID AND SELL.ZID = GIFTSTORE.ZID AND GIFTSTORE.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific Museum of Earth'

SELECT DISTINCT TITLE, ADATE AS Activity_Date, AID, ZNAME AS Location FROM Activity, Museum, EXHIBITIONHALL
WHERE Activity.ZID = EXHIBITIONHALL.ZID AND EXHIBITIONHALL.MID = Museum.MID AND Museum.Mname = 'Beaty Biodiversity Museum'

SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Beaty Biodiversity Museum'

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```
SELECT DISTINCT GUIDE1.GID AS GID, GNAME AS Guide_name, GUIDE2.FIELD AS Field, OFFICE
FROM GUIDE1, GUIDE2, EXHIBITS3, EXHIBITS4, MUSEUM
WHERE GUIDE1.FIELD = GUIDE2.FIELD AND GUIDE1.GID = EXHIBITS3.GID AND
      EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID
      AND MUSEUM.MNAME = 'Beaty Biodiversity Museum'
```

```
SELECT DISTINCT ENAME, BIRTHPLACE, EYEAR, CATEGORY FROM EXHIBITS2, EXHIBITS3,
EXHIBITS4, MUSEUM
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND
      EXHIBITS4.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Beaty Biodiversity Museum'
```

```
SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY,
CINEMA, MUSEUM
WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID
      AND MUSEUM.MNAME = 'Beaty Biodiversity Museum'
```

```
SELECT DISTINCT SNAME, PRICE, INVENTORY, SELL.SID AS SID FROM SOUVENIR, SELL,
GIFTSTORE, MUSEUM
WHERE SOUVENIR.SID = SELL.SID AND SELL.ZID = GIFTSTORE.ZID AND GIFTSTORE.MID =
      MUSEUM.MID AND MUSEUM.MNAME = 'Beaty Biodiversity Museum'
```

```
SELECT DISTINCT TITLE, ADATE AS Activity_Date, AID, ZNAME AS Location FROM Activity,
Museum, EXHIBITIONHALL
WHERE Activity.ZID = EXHIBITIONHALL.ZID AND EXHIBITIONHALL.MID = Museum.MID AND
      Museum.Mname = 'Museum of Anthropology at UBC'
```

```
SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Museum of
Anthropology at UBC'
```

```
SELECT DISTINCT GUIDE1.GID AS GID, GNAME AS Guide_name, GUIDE2.FIELD AS Field, OFFICE
FROM GUIDE1, GUIDE2, EXHIBITS3, EXHIBITS4, MUSEUM
WHERE GUIDE1.FIELD = GUIDE2.FIELD AND GUIDE1.GID = EXHIBITS3.GID AND
      EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID
      AND MUSEUM.MNAME = 'Museum of Anthropology at UBC'
```

```
SELECT DISTINCT ENAME, BIRTHPLACE, EYEAR, CATEGORY FROM EXHIBITS2, EXHIBITS3,
EXHIBITS4, MUSEUM
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND
      EXHIBITS4.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Museum of Anthropology at UBC'
```

```
SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY,
CINEMA, MUSEUM
```

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WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID
AND MUSEUM.MNAME = 'Museum of Anthropology at UBC'

SELECT DISTINCT SNAME, PRICE, INVENTORY, SELL.SID AS SID FROM SOUVENIR, SELL,
GIFTSTORE, MUSEUM

WHERE SOUVENIR.SID = SELL.SID AND SELL.ZID = GIFTSTORE.ZID AND GIFTSTORE.MID =
MUSEUM.MID AND MUSEUM.MNAME = 'Museum of Anthropology at UBC'

SELECT DISTINCT TITLE, ADATE AS Activity_Date, AID, ZNAME AS Location FROM Activity,
Museum, EXHIBITIONHALL

WHERE Activity.ZID = EXHIBITIONHALL.ZID AND EXHIBITIONHALL.MID = Museum.MID AND
Museum.Mname = 'Old Hastings Mill Store Museum'

SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Old Hastings Mill
Store Museum'

SELECT DISTINCT GUIDE1.GID AS GID, GNAME AS Guide_name, GUIDE2.FIELD AS Field, OFFICE
FROM GUIDE1, GUIDE2, EXHIBITS3, EXHIBITS4, MUSEUM
WHERE GUIDE1.FIELD = GUIDE2.FIELD AND GUIDE1.GID = EXHIBITS3.GID AND
EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID
AND MUSEUM.MNAME = 'Old Hastings Mill Store Museum'

SELECT DISTINCT ENAME, BIRTHPLACE, EYEAR, CATEGORY FROM EXHIBITS2, EXHIBITS3,
EXHIBITS4, MUSEUM
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND
EXHIBITS4.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Old Hastings Mill Store Museum'

SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY,
CINEMA, MUSEUM
WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID
AND MUSEUM.MNAME = 'Old Hastings Mill Store Museum'

SELECT DISTINCT SNAME, PRICE, INVENTORY, SELL.SID AS SID FROM SOUVENIR, SELL,
GIFTSTORE, MUSEUM
WHERE SOUVENIR.SID = SELL.SID AND SELL.ZID = GIFTSTORE.ZID AND GIFTSTORE.MID =
MUSEUM.MID AND MUSEUM.MNAME = 'Old Hastings Mill Store Museum'

SELECT DISTINCT TITLE, ADATE AS Activity_Date, AID, ZNAME AS Location FROM Activity,
Museum, EXHIBITIONHALL

WHERE Activity.ZID = EXHIBITIONHALL.ZID AND EXHIBITIONHALL.MID = Museum.MID AND
Museum.Mname = 'BC Golf Museum'

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```
SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum  
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'BC Golf Museum'
```

```
SELECT DISTINCT GUIDE1.GID AS GID, GNAME AS Guide_name, GUIDE2.FIELD AS Field, OFFICE  
FROM GUIDE1, GUIDE2, EXHIBITS3, EXHIBITS4, MUSEUM  
WHERE GUIDE1.FIELD = GUIDE2.FIELD AND GUIDE1.GID = EXHIBITS3.GID AND  
EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID  
AND MUSEUM.MNAME = 'BC Golf Museum'
```

```
SELECT DISTINCT ENAME, BIRTHPLACE, EYEAR, CATEGORY FROM EXHIBITS2, EXHIBITS3,  
EXHIBITS4, MUSEUM  
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND  
EXHIBITS4.MID = MUSEUM.MID AND MUSEUM.MNAME = 'BC Golf Museum'
```

```
SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY,  
CINEMA, MUSEUM  
WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID  
AND MUSEUM.MNAME = 'BC Golf Museum'
```

```
SELECT DISTINCT SNAME, PRICE, INVENTORY, SELL.SID AS SID FROM SOUVENIR, SELL,  
GIFTSTORE, MUSEUM  
WHERE SOUVENIR.SID = SELL.SID AND SELL.ZID = GIFTSTORE.ZID AND GIFTSTORE.MID =  
MUSEUM.MID AND MUSEUM.MNAME = 'BC Golf Museum'
```

```
SELECT DISTINCT TITLE, ADATE AS Activity_Date, AID, ZNAME AS Location FROM Activity,  
Museum, EXHIBITIONHALL  
WHERE Activity.ZID = EXHIBITIONHALL.ZID AND EXHIBITIONHALL.MID = Museum.MID AND  
Museum.Mname = 'West Vancouver Art Museum'
```

```
SELECT ZNAME AS Hall_Name, ZID AS Zoon_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum  
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'West Vancouver Art  
Museum'
```

```
SELECT DISTINCT GUIDE1.GID AS GID, GNAME AS Guide_name, GUIDE2.FIELD AS Field, OFFICE  
FROM GUIDE1, GUIDE2, EXHIBITS3, EXHIBITS4, MUSEUM  
WHERE GUIDE1.FIELD = GUIDE2.FIELD AND GUIDE1.GID = EXHIBITS3.GID AND  
EXHIBITS3.ZID = EXHIBITS4.ZID AND EXHIBITS4.MID = MUSEUM.MID  
AND MUSEUM.MNAME = 'West Vancouver Art Museum'
```

```
SELECT DISTINCT ENAME, BIRTHPLACE, EYEAR, CATEGORY FROM EXHIBITS2, EXHIBITS3,  
EXHIBITS4, MUSEUM  
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS3.ZID = EXHIBITS4.ZID AND  
EXHIBITS4.MID = MUSEUM.MID AND MUSEUM.MNAME = 'West Vancouver Art Museum'
```

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```
SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY,  
CINEMA, MUSEUM
```

```
WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID  
AND MUSEUM.MNAME = 'West Vancouver Art Museum'
```

```
SELECT DISTINCT SNAME, PRICE, INVENTORY, SELL.SID AS SID FROM SOUVENIR, SELL,  
GIFTSTORE, MUSEUM
```

```
WHERE SOUVENIR.SID = SELL.SID AND SELL.ZID = GIFTSTORE.ZID AND GIFTSTORE.MID =  
MUSEUM.MID AND MUSEUM.MNAME = 'West Vancouver Art Museum'
```

```
SELECT * FROM Activity
```

```
SELECT ENAME, EID, BIRTHPLACE, EYEAR AS BIRTH_YEAR, CATEGORY FROM Exhibits2,  
Exhibits3, Exhibits4
```

```
WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS4.ZID = EXHIBITS3.ZID
```

```
SELECT Mname FROM Museum
```

```
SELECT DISTINCT FNAME, FTIME AS TIME, F.FID AS FID, ENAME AS ABOUT_EXHIBIT FROM Film  
F, ABOUT A, PLAY P, EXHIBITS3 E
```

```
WHERE F.FID = A.FID AND F.FID = P.FID AND A.EID = E.EID
```

```
SELECT Mname FROM Museum
```

```
SELECT SNAME, SOUVENIR.SID, PRICE, SUM(INVENTORY) AS TOTAL_INVENTORY FROM  
SOUVENIR, SELL
```

```
WHERE SOUVENIR.SID = SELL.SID
```

```
GROUP BY SNAME, PRICE, SOUVENIR.SID HAVING SOUVENIR.PRICE > 5
```

```
SELECT DISTINCT FNAME, FTIME AS TIME, F.FID AS FID, ENAME AS ABOUT_EXHIBIT FROM Film  
F, ABOUT A, PLAY P, EXHIBITS3 E
```

```
WHERE F.FID = A.FID AND F.FID = P.FID AND A.EID = E.EID AND NOT EXISTS((SELECT ZID FROM  
CINEMA, MUSEUM WHERE CINEMA.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific  
Museum of Earth') MINUS (SELECT ZID FROM PLAY WHERE PLAY.FID = F.FID))
```

```
SELECT DISTINCT FNAME, FTIME AS TIME, F.FID AS FID, ENAME AS ABOUT_EXHIBIT FROM Film  
F, ABOUT A, PLAY P, EXHIBITS3 E
```

```
WHERE F.FID = A.FID AND F.FID = P.FID AND A.EID = E.EID AND NOT EXISTS((SELECT ZID FROM  
CINEMA, MUSEUM WHERE CINEMA.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific  
Museum of Earth' OR MUSEUM.MNAME = 'Beatty Biodiversity Museum') MINUS (SELECT ZID  
FROM PLAY WHERE PLAY.FID = F.FID))
```

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```
SELECT SNAME, PRICE, SUM(INVENTORY) AS TOTAL_INVENTORY FROM SOUVENIR, SELL  
WHERE SOUVENIR.SID = SELL.SID AND NOT EXISTS((SELECT ZID FROM GIFTSTORE, MUSEUM  
WHERE GIFTSTORE.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Museum of  
Anthropology at UBC') MINUS (SELECT ZID FROM GIFTSTORE WHERE SELL.ZID = GIFTSTORE.ZID))  
GROUP BY SNAME, PRICE HAVING SOUVENIR.PRICE > 5
```

```
SELECT SNAME, PRICE, SUM(INVENTORY) AS TOTAL_INVENTORY FROM SOUVENIR, SELL  
WHERE SOUVENIR.SID = SELL.SID AND NOT EXISTS((SELECT ZID FROM GIFTSTORE, MUSEUM  
WHERE GIFTSTORE.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Museum of  
Anthropology at UBC' OR MUSEUM.MNAME = 'Old Hastings Mill Store Museum') MINUS  
(SELECT ZID FROM GIFTSTORE WHERE SELL.ZID = GIFTSTORE.ZID))  
GROUP BY SNAME, PRICE HAVING SOUVENIR.PRICE > 5
```

```
UPDATE EXHIBITS3 SET ENAME = ? WHERE EID = ?
```

```
DELETE FROM Activity WHERE AID = ?
```

```
DELETE FROM Film WHERE FID = ?
```

```
DELETE FROM Souvenir WHERE SID = ?
```

```
INSERT INTO Activity VALUES (?,?,?,?,?)
```

Part E:

Insert Operation Query

```
INSERT INTO Activity VALUES (4064, 'WVAM! Family Art Project', '2022-11-26', 2061)
```

PS: The query can be found at InsertQueryFrame.java line 276, and the function that performs it can be found at DatabaseConnectionHandler.java line 173

Before running this query:

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A screenshot of a Windows desktop showing a database management application window titled "Museum Data Management". The main area displays a table with columns: AID, TITLE, ADATE, and ZID. The table contains 12 rows of activity data. An "Add data" button is visible at the top of the table. The application interface includes a left sidebar with project navigation and a right sidebar with various icons.

AID	TITLE	ADATE	ZID
4011	Welcome to your family reunion!	2022-03-02	2011
4021	Meet Big Blue!	2010-05-01	2022
4022	The Curious World of Seaweed	2022-05-15	2021
4031	The Great Hall Renewal Project	2020-12-29	2031
4041	Meet Vancouver's First Ladies of the 1950s	2022-04-09	2041
4051	125 Years of Women's Golf in BC	2017-10-18	2051
4061	Rabbit Lane: Douglas Coupland	2022-03-30	2061
4062	A Twist of the Rules: The Architecture of Martha Sturdy: All Fall Down	2022-06-08	2061
4063		2022-10-22	2061

GUI that runs this query:

A screenshot of the same Windows desktop showing the same database management application. An "Insert data" dialog box is open in the foreground, prompting for new activity information. The dialog fields include: Enter Activity ID (4064), Enter Activity title (WVAM Family Art Project), Enter activity date (2022-11-26), Select Museum (West Vancouver Art Museum), and Select Exhibition Hall (Main Exhibition Hall). A "Add this activity!" button is at the bottom of the dialog.

After running this Query:

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The screenshot shows a Windows desktop environment with a database management application titled "Museum Data Management". The main window displays a table named "Activity" with the following columns: AID, TITLE, ADATE, and ZID. The data in the table is as follows:

AID	TITLE	ADATE	ZID
4011	Welcome to your family reunion!	2022-03-02	2011
4021	Meet Big Blue!	2019-05-01	2022
4022	The Curious World of Seaweed	2022-05-15	2021
4031	The Great Hall Renewal Project	2020-12-29	2031
4041	Vancouver in Fashion, the 1950s	2022-04-09	2041
4051	125 Years of Women's Golf in BC	2017-10-18	2051
4061	Rabbit Lane: Douglas Coupland	2022-03-30	2061
4062	A Twist of the Rules: The Architecture of	2022-06-08	2061
4063	Martha Sturdy: All Fall Down	2022-10-22	2061
4064	WVAM! Family Art Project	2022-11-26	2061

Delete Operation Query

```
DELETE FROM Activity WHERE AID = 4064
```

PS: the function that performs a delete query can be found at DatabaseConnectionHandler.java line 85

Before running the Query:

This screenshot is identical to the one above, showing the "Museum Data Management" application with the "Activity" table. The data in the table remains the same, confirming that no rows have been deleted yet.

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The GUI that runs the query:

A screenshot of a Windows desktop showing the "Museum Data Management" application. The main window displays a table of activities with columns: AID, TITLE, ADATE, and ZID. A modal dialog box titled "输入" (Input) is open, asking "Input the AID of the activity you want to delete" with the value "4064" entered. The application interface includes tabs for Settings, Table, Add data, Remove data, and Update data.

After performing the Query:

A screenshot of the same Windows desktop and application after the delete operation. The table now shows 11 rows of data, indicating that the row with AID 4064 has been removed. The application interface remains the same, with the "Remove data" tab visible.

Update Operation Query

UPDATE EXHIBITS3 SET ENAME = 'A golf trophy' WHERE EID = 6011

PS: the method that performs the query can be found at DatabaseConnectionHandler.java line 190

Before running the query:

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The screenshot shows a Windows desktop environment with a 'Museum Data Management' application window open. The window has a title bar 'Museum Data Management' and a menu bar with options like File, Edit, View, etc. On the left, there's a sidebar with 'Project' and 'Exhibits' sections. The main area is a table with columns: ENAME, EID, BIRTHPLACE, BIRTH_YEAR, and CATEGORY. The data includes entries like 'Big whale' (EID 6001), 'Human Skull' (EID 6002), and various artifacts and fashion items from the 1950s. A status bar at the bottom indicates 'All files are up-to-date (17 minutes ago)'.

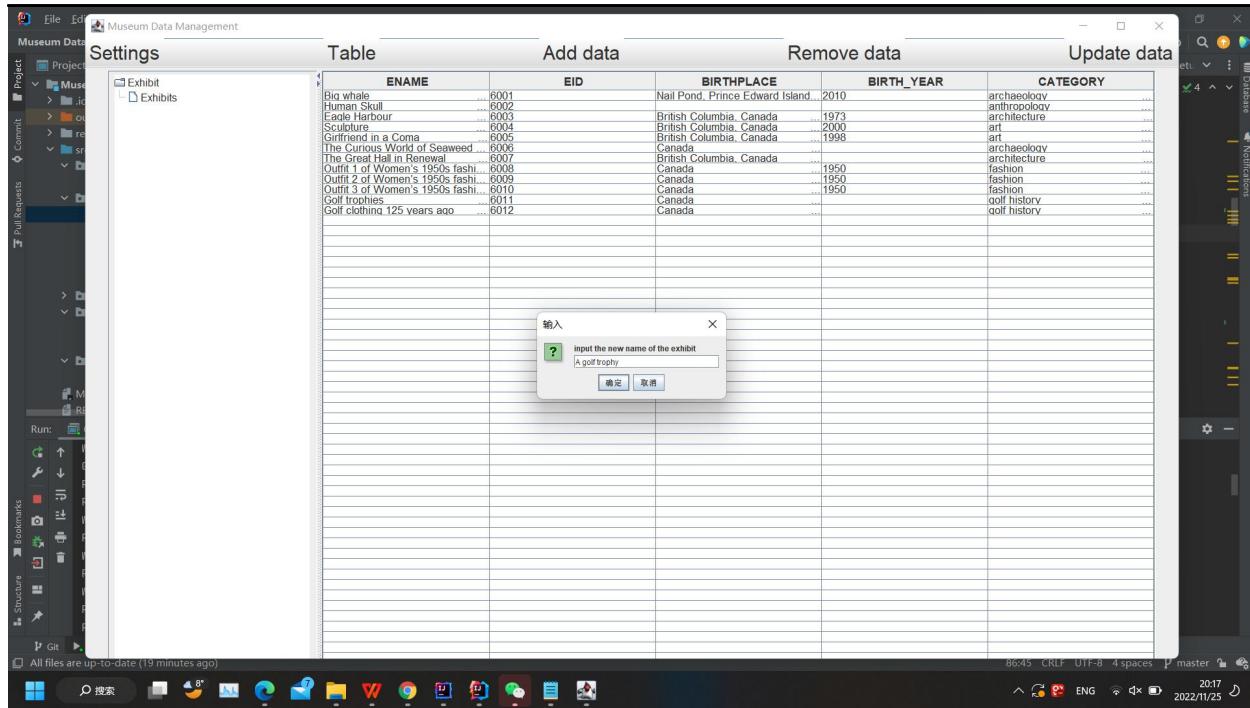
ENAME	EID	BIRTHPLACE	BIRTH_YEAR	CATEGORY
Big whale	6001	Nail Pond, Prince Edward Island	2010	archaeology
Human Skull	6002			anthropology
Eagle Harbour	6003	British Columbia, Canada	1973	architecture
Sculpture	6004	British Columbia, Canada	2000	art
Giraffe in a Coma	6005	British Columbia, Canada	1998	art
The Curious World of Seaweed	6006	Canada		archeology
The Great Hall in Renewal	6007	British Columbia, Canada		architecture
Outfit 1 of Women's 1950s fashi...	6008	Canada	1950	fashion
Outfit 2 of Women's 1950s fashi...	6009	Canada	1950	fashion
Outfit 3 of Women's 1950s fashi...	6010	Canada	1950	fashion
Golf trophies	6011	Canada		golf history
Golf clothing 125 years ago	6012	Canada		golf history

GUI performing the query:

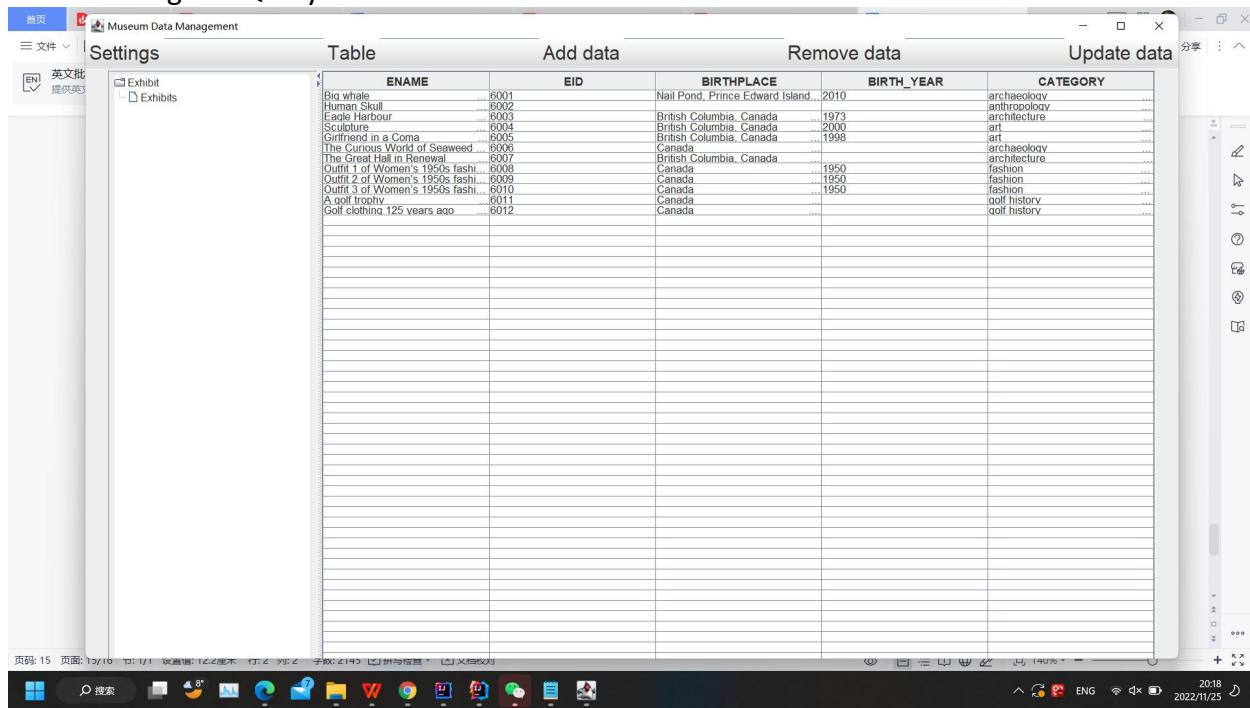
This screenshot shows the same 'Museum Data Management' application window. A modal dialog box titled '输入' (Input) is displayed in the center, asking 'input the EID of the exhibit you want to update' (input the EID of the exhibit you want to update). The input field contains '6011'. At the bottom of the dialog are '确定' (Confirm) and '取消' (Cancel) buttons. The status bar at the bottom of the window shows '2016 2022/11/25'.

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After running the Query:



Selection Query

```
SELECT DISTINCT FNAME, SHOWTIME, FILM.FID AS FID, FTIME AS TIME FROM FILM, PLAY,  
CINEMA, MUSEUM
```

```
WHERE FILM.FID = PLAY.FID AND CINEMA.ZID = PLAY.ZID AND CINEMA.MID = MUSEUM.MID  
AND MUSEUM.MNAME = 'Pacific Museum of Earth'
```

PS: This query can be found at InformationPanel.java line 60

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Before running the query:

The screenshot shows the 'Museum Data Management' application interface. On the left, there's a sidebar with project navigation and a 'Pull Requests' section. The main area has tabs for 'Settings', 'Table', 'Add data', 'Remove data', and 'Update data'. The 'Table' tab is active, displaying a table with columns: FNAME, TIME, FID, and ABOUT_EXHIBIT. The data includes various museum items like 'Background of Douglas Coupland', 'Fashion in the 1950s', and 'Background of Paul Merrick', along with their descriptions. The bottom status bar indicates the build completed successfully in 2 sec, 820 ms (3 minutes ago).

After running the Query:

The screenshot shows the same 'Museum Data Management' application after a query has been run. The table now has four columns: FNAME, SHOWTIME, FID, and TIME. Only one row of data remains: 'test' with a SHOWTIME of '14:30' and '13:30', FID '5111', and TIME '25'. The rest of the table is empty. The bottom status bar indicates the build completed successfully in 2 sec, 820 ms (a minute ago).

Projection Query

```
SELECT ZNAME AS Hall_Name, ZID AS Zone_ID, ISOPEN, FLOOR FROM ExhibitionHall, Museum  
WHERE EXHIBITIONHALL.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Pacific Museum of  
Earth'
```

PS: this query can be found at InformationPanel.java line 50

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Projected table:

The screenshot shows a software interface titled "Museum Data Management". On the left, there's a tree view of a database schema under a "Project" named "Museum". The schema includes tables for Museum, Exhibition Halls, Activities, Guides, Exhibits, Films, and Souvenirs. The "Exhibition Halls" table is currently selected. The main area displays a "Table" view with columns: HALL_NAME, ZOON_ID, ISOPEN, and FLOOR. Two rows are present: "Hominin Hall" with ZOON_ID 2011, ISOPEN true, and FLOOR ground; and "Weather Alley" with ZOON_ID 2012, ISOPEN true, and FLOOR ground. There are also tabs for "Add data", "Remove data", and "Update data". The bottom status bar shows the build completed successfully in 2 sec, 820 ms (4 minutes ago), and the terminal output: 62:51 CRLF UTF-8 4 spaces master 2027 2022/11/25.

HALL_NAME	ZOON_ID	ISOPEN	FLOOR
Hominin Hall	2011	true	ground
Weather Alley	2012	true	ground

Join Query

Example 1:

```
SELECT ENAME, EID, BIRTHPLACE, EYEAR AS BIRTH_YEAR, CATEGORY FROM Exhibits2, Exhibits3,  
Exhibits4
```

WHERE EXHIBITS2.GID = EXHIBITS3.GID AND EXHIBITS4.ZID = EXHIBITS3.ZID

PS: this query can be found at InformationPanel.java line 74

(because we stored three normalized tables in our database so we needed to join it for display)

Joined table:

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The screenshot shows a software interface titled "Museum Data Management". On the left, there's a sidebar with "Settings" and "Exhibit" sections. The main area is a table with the following columns: ENAME, EID, BIRTHPLACE, BIRTH_YEAR, and CATEGORY. The data includes entries like "Big whale", "Human Skull", "Eagle Harbour", etc., with various birthplace and year details. The bottom status bar shows "Page: 17" and "2022/11/25".

ENAME	EID	BIRTHPLACE	BIRTH_YEAR	CATEGORY
Big whale	6001	Nail Pond, Prince Edward Island	2010	archaeology
Human Skull	6002			anthropology
Eagle Harbour	6003	British Columbia, Canada	1973	architecture
Sculpture	6004	British Columbia, Canada	2000	art
Giraffe in a Cone	6005	Canada	1998	art
The Curious World of Seaweed	6006	British Columbia, Canada	1998	archeology
The Great Hall in Renewal	6007	Canada	1998	architecture
Outfit 1 of Women's 1950s fashi	6008	Canada	1950	fashion
Outfit 2 of Women's 1950s fashi	6009	Canada	1950	fashion
Outfit 3 of Women's 1950s fashi	6010	Canada	1950	fashion
A golf froph	6011	Canada	1950	golf history
Golf clothing 125 years ago	6012	Canada	1950	golf history

Example 2:

```
SELECT TITLE, Activity.AID, ADATE, COUNT(PARTICIPATE.GID) AS GUIDE_NUMBER FROM
Activity FULL OUTER JOIN PARTICIPATE
ON (ACTIVITY.AID = PARTICIPATE.AID)
GROUP BY TITLE, Activity.AID, ADATE
```

PS: this query can be found at InformationPanel.java line71

Table with this query performed:

The screenshot shows a software interface titled "Museum Data Management". On the left, there's a sidebar with "Project" and "Activities" sections. The main area is a table with the following columns: TITLE, AID, ADATE, and GUIDE_NUMBER. The data includes entries like "The Curious World of Seaweed", "125 Years of Women's Golf in BC", etc., with their respective activity dates and guide numbers. The bottom status bar shows "Build completed successfully in 2 sec, 61 ms (moments ago)" and "2022/11/25".

TITLE	AID	ADATE	GUIDE_NUMBER
The Curious World of Seaweed	4022	2022-05-15	1
125 Years of Women's Golf in BC	4051	2017-10-18	1
www	4052	2022-06-02	0
Vancouver in Fashion, the 1950s	4041	2022-04-09	1
Rabbit Lane: Douglas Coupland	4061	2022-03-30	1
Meet Big Blue!	4021	2019-05-01	1
A Day in the Life: Rules, The Architecture of	4022	2022-05-06	1
Martha Sturdy: All Fall Down	4063	2022-10-22	1
Welcome to your family reunion!	4011	2022-03-02	1
The Great Hall Renewal Project	4031	2020-12-29	1

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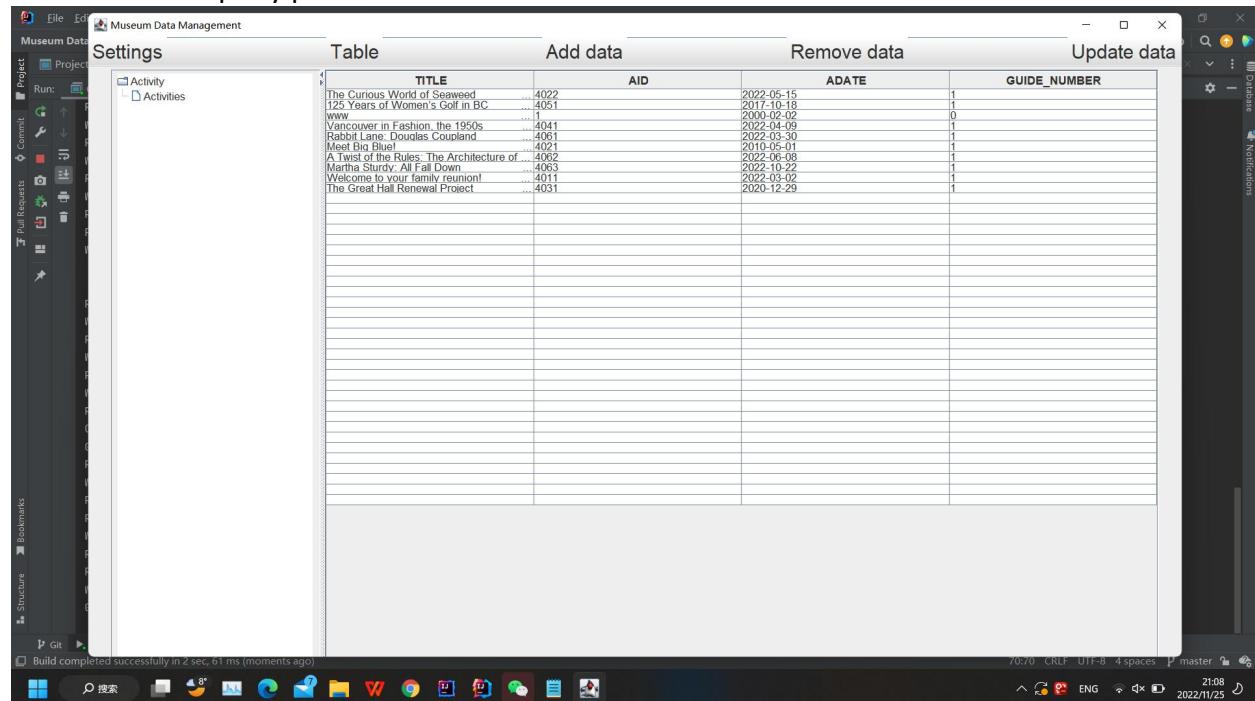
Aggregation with Group By Query

(also the second example from above)

```
SELECT TITLE, Activity.AID, ADATE, COUNT(PARTICIPATE.GID) AS GUIDE_NUMBER FROM
Activity FULL OUTER JOIN PARTICIPATE
ON (ACTIVITY.AID = PARTICIPATE.AID)
GROUP BY TITLE, Activity.AID, ADATE
```

PS: this query can be found at InformationPanel.java line71

Table with this query performed:



	TITLE	AID	ADATE	GUIDE_NUMBER
	The Curious World of Seaweed	4022	2022-05-15	1
	125 Years of Women's Golf in BC	4051	2017-10-18	1
	www	...	2000-02-02	0
	Vancouver in Fashion, the 1950s	4041	2022-04-09	1
	Rabbit Hole Douglas Coupland	4040	2010-04-30	1
	Meat, Big Blue!	4021	2010-05-01	1
	A Twist of the Rules: The Architecture of	4062	2022-06-08	1
	Martha Sturdy: All Fall Down	4063	2022-10-22	1
	Welcome to your family reunion!	4011	2022-07-02	1
	The Great Hall Renewal Project	4031	2020-12-29	1

Aggregation with Having Query & Nested Aggregation with Group By Query

```
SELECT SNAME, SOUVENIR.SID, PRICE, SUM(INVENTORY) AS TOTAL_INVENTORY FROM
SOUVENIR, SELL
```

WHERE SOUVENIR.SID = SELL.SID

```
GROUP BY SNAME, PRICE, SOUVENIR.SID HAVING SOUVENIR.PRICE > 5
```

PS: this query can be found at InformationPanel.java line 83

Table with query performed:

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The screenshot shows a software interface titled "Museum Data Management". On the left, there's a sidebar with "Settings" and a tree view showing "Souvenir" and "Souvenirs". The main area has tabs for "Table", "Add data", "Remove data", and "Update data". A toolbar at the top includes "Pacific Museum of Earth", "Beatty Biodiversity Museum", "Museum of Anthropology at UBC", "Old Hastings Mill Store Museum", "BC Golf Museum", and "West Vancouver Art Museum". The table itself has columns: SNAME, SID, PRICE, and TOTAL_INVENTORY. The data includes items like "Golf Ball" (SID 5204), "Paul's Building Micromodel" (SID 5205), "Dinosaur Mug" (SID 5202), "test" (SID 7), "Bio Whale Key Chain" (SID 5201), "Handcrafted gifts" (SID 5208), "Your Skull Model" (SID 5206), and "Great Hall Blueprint" (SID 5207). The total inventory for each item is listed in the last column.

SNAME	SID	PRICE	TOTAL_INVENTORY
Golf Ball	5204	30	30
Paul's Building Micromodel	5205	150	35
Dinosaur Mug	5202	16	50
test	7	15	200
Bio Whale Key Chain	5201	20	100
Handcrafted gifts	5208	15	200
Your Skull Model	5206	80	80
Great Hall Blueprint	5207	35	100

Division Query

```
SELECT DISTINCT FNAME, FTIME AS TIME, F.FID AS FID, ENAME AS ABOUT_EXHIBIT FROM Film F,  
ABOUT A, PLAY P, EXHIBITS3 E  
WHERE F.FID = A.FID AND F.FID = P.FID AND A.EID = E.EID AND NOT EXISTS((SELECT ZID FROM  
CINEMA, MUSEUM WHERE CINEMA.MID = MUSEUM.MID AND MUSEUM.MNAME = 'Beatty  
Biodiversity Museum' OR MUSEUM.MNAME = 'Museum of Anthropology at UBC' OR  
MUSEUM.MNAME = 'Old Hastings Mill Store Museum') MINUS (SELECT ZID FROM PLAY WHERE  
PLAY.FID = F.FID))
```

PS: this query can be found at TablePanel.java line 86

Before running query:

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The screenshot shows a software interface titled "Museum Data Management". On the left is a sidebar with "Project" and "Films" sections. The main area has tabs for "Settings", "Table", "Add data", "Remove data", and "Update data". A table is displayed with columns: FNAME, TIME, FID, and ABOUT_EXHIBIT. The table contains 15 rows of data. At the bottom of the table, there are several empty rows for new entries.

FNAME	TIME	FID	ABOUT_EXHIBIT
Background of Douglas Coupland	45	5161	Girlfriend in a Coma
Fashion in the 1950s	30	5111	Outfit 3 of Women's 1950s fashion
Where did we come from?	20	5111	Human Skull
Seaweed	30	5122	The Curious World of Seaweed
Fashion in the 1950s	30	5141	Outfit 1 of Women's 1950s fashion
Fashion in the 1950s	30	5141	Outfit 2 of Women's 1950s fashion
Story of the Big Blue	60	5161	Big Blue
Background of Paul Merrick	20	5162	Big Blue Harbour
Background of Martha Sturdy	25	5163	Sculpture
Golf Glory	30	5151	A golf trophy
Golf Glory	30	5151	A golf clothing 125 years ago
test	25	8	Human Skull
History of the Great Hall	30	5131	The Great Hall in Renewal

After running query:

The screenshot shows the same software interface as the previous one, but the table now only contains a single row of data. This indicates that a query was run to filter or insert data.

FNAME	TIME	FID	ABOUT_EXHIBIT
test	25	8	Human Skull