

W1D1 Assignment:

1. Briefly discuss

a.

i. Data

Any fact or figures collected through observation or measurement, for the purpose of reference or analysis. Single items that are stored in a database.

ii. Database

Is an organized or structured collection of related data. A database is usually controlled by a database management system.

iii. Database management system

Is a software that manages and controls access to and operation of , a database.

iv. Database application program

Is any computer program that interacts with a database at some point during its execution.

b. Describe the main characteristics of data approach and contrast it will the file-based approach.

File-based approach is a collection of application programs that perform services for the end-users, such as the production of reports. The operation in file-based systems were decentralized than centralized. Hence, the file-based approach is as compared to database approach suffers significant limitations. These includes, separation and isolation of data, duplication of data, data dependence, incompatible file formats, and fixed queries.

c. What are the five component of DBMS environment and how are they related to each other?

The five components of DBMS environment are hardware, software, data, procedures, and peoples. Date is the main bridge between the machine components and the human components. The database contains both the operational data and the metadata.

d. dreamHome

i. main object that needs to be represented in the database?

Sales department have property for rent, private owner and client objects represented and data collected for.

Contract department on the other hand contains lease, property for rent and client (data is collected for each property of the object).

ii. What relationships do you think exist between these main objects?

There is a duplicated collection of data in each objects and one- to many relationships between these objects.

- iii. For each of the objects, what details do you think need to be stored in the database?

Sales department:

Property (propertyNo, street, city, postcode, type, rooms , rent and ownerNo)

PrivateOwner(ownerNo, fName, address, telNo, prefType, rent),

Client(clientNo, fName, lName, address, telNo)

Contract department:

Lease(leaseNo, propertyNo, clientNo, rent, paymentMethods, deposit, paid, rentStart, rentFinish and duration.

PropertyForRent(propertyNo, street, city, postcode, rent),

Client(clientNo, fName, lName, address, telNo).

- iv. Give at least 3 queries you think will be required.

- 1.find private owner whose last name starts with D

- 2. find a lease that finished on end of July.

- 3.find list of homes with 4 bedrooms and less than \$500 monthly rent in Fairfax, IA

- 2. Perform the following tasks?

- a. Obtain and install the MySQL => done.

- b. Complete the following tasks

- i. Start MySQL database server

- ii. Launch and perform

- 1. MySQL JS > \status

```
MySQL Shell
MySQL Shell 8.0.27

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Type '\help' or '\?' for help; '\quit' to exit.
mysql> \sql
Switching to SQL mode... Commands end with ;
mysql> \js
Switching to JavaScript mode...
mysql> \status
MySQL Shell version 8.0.27
Not Connected.
mysql>
```

2. MySQL JS > \connect root@localhost

```
MySQL Shell
MySQL Shell 8.0.27

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mysql> \sql
Switching to SQL mode... Commands end with ;
mysql> \js
Switching to JavaScript mode...
mysql> \status
MySQL Shell version 8.0.27
Not Connected.
mysql> \connect root@localhost
Creating a session to 'root@localhost'
Fetching schema names for autocompletion... Press 'C' to stop.
Your MySQL connection id is 23 (X protocol)
Server version: 8.0.22 MySQL Community Server - GPL
No default schema selected; type 'use <schema>' to set one.
mysql> localhost:33060> ssl>
```

3. MySQL JS > \sql

```
MySQL Shell
MySQL Shell 8.0.27

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Your MySQL connection id is 23 (X protocol)
Server version: 8.0.27 MySQL Community Server - GPL
No default schema selected; type 'use <schema>' to set one.
MySQL localhost:33060> ssl > \js
ReferenceError: cls is not defined
MySQL localhost:33060> ssl > \sql
Switching to SQL mode... Commands end with ;
MySQL localhost:33060> ssl > \sql
```

4. MySQL localhost:33060+ ssl SQL > show databases;

```
MySQL Shell
MySQL Shell 8.0.27

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Your MySQL connection id is 23 (X protocol)
Server version: 8.0.27 MySQL Community Server - GPL
No default schema selected; type 'use <schema>' to set one.
MySQL localhost:33060> ssl > \js
ReferenceError: cls is not defined
MySQL localhost:33060> ssl > \sql
Switching to SQL mode... Commands end with ;
MySQL localhost:33060> ssl > \sql
MySQL localhost:33060> ssl > show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
Query OK, 6 rows affected (0.0014 sec)
MySQL localhost:33060> ssl > \sql
```

5. MySQL localhost:33060+ ssl SQL > use world

```
MySQL Shell
MySQL Shell 8.0.27

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Type '\help' or '\?' for help; '\quit' to exit.
MySQL> \sql
Switching to SQL mode... Commands end with ;
MySQL> \js
Switching to JavaScript mode...
MySQL> \status
MySQL Shell version 8.0.27

Not Connected.
MySQL> \connect root@localhost
Creating a session to 'root@localhost'
Fetching schema names for autocompletion... Press ^C to stop.
Your MySQL connection id is 23 (X protocol)
Server version: 8.0.27 MySQL Community Server - GPL
No default schema selected; type 'use (schema);' to set one.
MySQL localhost:33060> \c
ReferenceError: cls is not defined
MySQL localhost:33060> \sql
Switching to SQL mode... Commands end with ;
MySQL localhost:33060> \sql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
0 rows in set (0.0014 sec)
MySQL localhost:33060> \sql> use world;
Default schema set to 'world'.
Fetching table and column names from 'world' for auto-completion... Press ^C to stop.
MySQL localhost:33060> \sql> 
```

6. MySQL localhost:33060+ ssl SQL > show tables;

```
MySQL Shell
MySQL> \sql
Switching to SQL mode... Commands end with ;
MySQL> \js
Switching to JavaScript mode...
MySQL> \status
MySQL Shell version 8.0.27

Not Connected.
MySQL> \connect root@localhost
Creating a session to 'root@localhost'
Fetching schema names for autocompletion... Press ^C to stop.
Your MySQL connection id is 23 (X protocol)
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No default schema selected; type 'use (schema);' to set one.
MySQL localhost:33060> \c
ReferenceError: cls is not defined
MySQL localhost:33060> \sql
Switching to SQL mode... Commands end with ;
MySQL localhost:33060> \sql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
0 rows in set (0.0014 sec)
MySQL localhost:33060> \sql> use world;
Default schema set to 'world'.
Fetching table and column names from 'world' for auto-completion... Press ^C to stop.
MySQL localhost:33060> \sql> world> show tables;
+-----+
| Tables_in_world |
+-----+
| city |
| country |
| countrylanguage |
+-----+
0 rows in set (0.0022 sec)
MySQL localhost:33060> \sql> world> 
```

7. MySQL localhost:33060+ ssl SQL > desc country;

```

MySQL Shell
mysql> use world;
Default schema set to 'world'.
mysql> show tables;
+-----+
| Tables_in_world |
+-----+
| city             |
| country          |
| countrylanguage  |
+-----+
3 rows in set (0.0022 sec)

mysql> desc country;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| Code  | char(3) | NO | PRI |          |        |
| Name  | char(52) | NO |      |          |        |
| Continent | enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America') | NO |      |          |        |
| Region | char(10) | NO |      |          |        |
| SurfaceArea | float(10,2) | NO |      | 0.00 |        |
| IndepYear | smallint | YES |      | NULL |        |
| Population | int | NO |      | 0 |        |
| LifeExpectancy | float(3,1) | YES |      | NULL |        |
| GDP | float(10,2) | YES |      | NULL |        |
| GNPOld | float(10,2) | YES |      | NULL |        |
| LocalName | char(45) | NO |      |          |        |
| GovernmentForm | char(45) | NO |      |          |        |
| HeadOfState | char(60) | YES |      | NULL |        |
| Capital | int | YES |      | NULL |        |
| Code2 | char(2) | NO |      |          |        |
+-----+
15 rows in set (0.0033 sec)

mysql>

```

8. MySQL localhost:33060+ ssl SQL > desc city;

```

MySQL Shell
mysql> use world;
Default schema set to 'world'.
mysql> show tables;
+-----+
| Tables_in_world |
+-----+
| city             |
| country          |
| countrylanguage  |
+-----+
3 rows in set (0.0022 sec)

mysql> desc city;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| ID | int | NO | PRI |          | auto_increment |
| Name | char(35) | NO |      |          |        |
| CountryCode | char(3) | NO | MUL |          |        |
| District | char(20) | NO |      |          |        |
| Population | int | NO |      | 0 |        |
+-----+
5 rows in set (0.0034 sec)

mysql>

```

- iii. Carefully examine the schema/specifications for both the table named, country and the one named, city. Is there any relationship(s) between the two tables? Yes or No? If yes, describe the relationship(s) which you can identify.
Yes, and the tables are connected each other with some sort of id (keys).
- iv. Launch /open the MySQL Workbench GUI tool and take a screenshot of it.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Query 1 SQL File 3 actor city world

Limit to 1000 rows

1 SELECT * FROM sakila.city order by country_id;

2

3

4

Result Grid

city_id	city	country_id	last_update
251	Kabul	1	2006-02-15 04:45:25
59	Batna	2	2006-02-15 04:45:25
63	Bchar	2	2006-02-15 04:45:25
483	Skikda	2	2006-02-15 04:45:25
516	Tafuna	3	2006-02-15 04:45:25
67	Benguela	4	2006-02-15 04:45:25
360	Namibe	4	2006-02-15 04:45:25
493	South Hill	5	2006-02-15 04:45:25
20	Almirante Brown	6	2006-02-15 04:45:25
43	Avelaneda	6	2006-02-15 04:45:25
45	Baha Blanca	6	2006-02-15 04:45:25
128	Ordoba	6	2006-02-15 04:45:25
161	Escobar	6	2006-02-15 04:45:25
165	Ezeiza	6	2006-02-15 04:45:25
269	La Plata	6	2006-02-15 04:45:25
334	Merlo	6	2006-02-15 04:45:25
424	Quilmes	6	2006-02-15 04:45:25
454	San Miguel de T...	6	2006-02-15 04:45:25
457	Santa F	6	2006-02-15 04:45:25
524	Tandil	6	2006-02-15 04:45:25
567	Vicente Lopez	6	2006-02-15 04:45:25
586	Yerevan	7	2006-02-15 04:45:25
576	Woodridge	8	2006-02-15 04:45:25
186	Graz	9	2006-02-15 04:45:25
307	Linz	9	2006-02-15 04:45:25
447	Salzburg	9	2006-02-15 04:45:25
48	Baku	10	2006-02-15 04:45:25
505	Sumgayit	10	2006-02-15 04:45:25
14	al-Manama	11	2006-02-15 04:45:25
143	Dhaka	12	2006-02-15 04:45:25
234	Jamshur	12	2006-02-15 04:45:25
525	Tangail	12	2006-02-15 04:45:25
339	Mogilov	13	2006-02-15 04:45:25

Administration Schemas

Information

Schema: world

Object Info Session

city 1 x

Type here to search

39°F Mo