**Lab 7 – Aarish Salam Memon**

**A20499744**

**STEP – 1 DONE**

**STEP -2 DONE**

**STEP – 3**

Table

Description automatically generated

**Structure of table Planet2**

Graphical user interface, table

Description automatically generated

**Data Section of table Planet2 –**

A picture containing chart

Description automatically generated

**After Loading the GIF’s -**

Graphical user interface, application, table, Word

Description automatically generated

**After Committing the last task –**

Graphical user interface, text

Description automatically generated

**Viewing the loaded image –**

Graphical user interface, application, Word

Description automatically generated

**Loading the Essay in Planet3 table –**

Text

Description automatically generated with medium confidence

**Loading the Data in Plantet4 table –**

Graphical user interface, text, application

Description automatically generated

**After Executing the First Query –**

Graphical user interface, text, application, email

Description automatically generated

**Second Query, Joins –**

Graphical user interface, application

Description automatically generated

**STEP – 7 REPORT 1**

Text

Description automatically generated

**REPORT – 2**

Table

Description automatically generated with medium confidence

**STEP – 8**

**(2 Rows Inserted to Table Planets)**

Graphical user interface, text, application, email

Description automatically generated

**Adding two rows in table Planet2 now –**

Graphical user interface, text, application, email

Description automatically generated

**Adding Two Values in Table planet3 –**

Graphical user interface, text, application, email

Description automatically generated

**NATURAL JOIN AND IT’S RESULT –**

Graphical user interface

Description automatically generated

**REPORT 3 – NATURAL JOIN**

Table

Description automatically generated

**Additional Natural Join connecting all 4 tables –**

Graphical user interface, application

Description automatically generated

**STEP 11 – Questions and Reflections Concerning this Database Project.**

**Question 1. Managers of media services that offer video and audio media files for viewing and listening, such as YouTube, Netflix, Amazon Prime, Hulu, and Google Play, have a tremendous task of storing the media, auditing the files, uploading new media, and removing media. Customers are becoming more discriminatory, especially parents. How would you structure queries to filter media content that is geared toward children versus adults, comedies versus dramas and documentaries versus independent films? Give examples to support your answer.**

**Answer.** That won’t be difficult as there would be a permission set on the content and that can be controlled by the date of birth column when someone signs up for the website and enters their date of birth there would be a check parameter on the content when the users open it, it would directly be calling the DOB column and if the age is 18+ the particular content would open up without any restrictions but if it’s below 18 it will display a message of decline.

Let’s say Netflix, when we sign up for Netflix it asks the date of birth and once we enter the date of birth it stores our entry into the table of 18+ and that table has permission of the content but if I would’ve enter the DOB and was less than 18 it would stored my entry in that table and then I wouldn’t have permissions of certain content.

**Question 2. Many cultural institutions, such as art museums, planetariums, orchestras, and zoos, also maintain databases containing files (Customer/ member information, media files, image files (Photographs), digital news articles) that also must be maintained. Construct a database containing various tables that will classify such files (As mentioned here) for Century City’s 21st Century exhibition on the history of the city. Be descriptive as to the attributes of each table.**

**Answer.** For the schema of Century City’s 21st Century Exhibition.

CUSTOMERS {C\_ID, C\_NAME, C\_NUM, C\_ADDR}

MEMBERS {M\_ID, M\_NAME, M\_NUM, M\_PIC, M\_Status}

MEDIA {Item\_ID, Item\_Name, Item\_Type, Item\_Pic, Item\_Loc, Ex\_ID}

Exhibition {Ex\_ID, Ex\_Loc, Ex\_Addr}

GALLERY {G\_ID, Ex\_ID, Item\_ID}

Permissions {Ex\_ID, G\_ID, C\_ID, M\_ID, Permit (Y/N)}

These 4 tables would be taking care of the exhibition, also permissions would be set according to the Item type and the membership status.

**Question 3. Intellectual Property includes patents, trademarks, copyrights, and trade secrets. Perform research as to the legal lifetime of these four important intellectual properties in the United States.**

**Answer.** A Patent is a grant that is provided by the government that allows someone to protect the idea or innovation. In United States of America, USPTO (United States Patent & Trademark Office) issues the patents and there are three types of patents issue by the USPTO, Utility patent that is for technology and innovations and is valid for 20 years. Second is, Design patent that is for innovated or original design items and that is a valid for 14 years. Third one is, Plant patent it’s for the discovery of plant varieties and is also valid for 20 years.

Trademark is also followed by a process of registration, and it’s given on the first come first serve basis, someone who already has trademarked anything can’t be trademarked again by someone else, Trademark is also registered through USPTO. Also, there is no limit to the duration of the trademark.

Copyrights whether it’s published or unpublished requires no registration but to register the copyrights is advisable. It can be registered through United States Copyright Office or Online. It can be protected by the copyright mark.

Trade Secrets is a type of intellectual property that has formulas, processes, design that have an economic value that is unknown, or the value has the chances of carrying any information and that is sensitive, or the information is subject to effort to maintain the secrecy.

**Question 4. When conducting research in astronomy, there are often new discoveries made that may add to, corroborate, or contradict known data. You are the database manager for the NASA. How do you deal with these discoveries and their placement into appropriate files?**

**Answer.** Classification is the mandatory step being as a database administrator for this project of NASA. As there would be data that is known and there would be some data which is revealed time-to-time. Classification would be done majorly into two tables that is new data and known data, new data would be classified and the permission for that data would only be set to the author or scientist that is working on that data. Known data would be permitted to almost everyone working in that dept so maybe they need the data for any kind of research, but new data would be only set permission to the scientist/engineer working on that and it can be permitted to someone else if the original person allows it.

**Question 5. Would it be preferable to store astronomical data in NoSQL file or in traditional SQL files? Support your answer.**

**Answer.** My take on that is, to store astronomical data I would prefer NoSQL over SQL. Businesses containing big data whose data workloads are more towards rapid processing and analyzing unstructured data would be better to work on NoSQL as unlike SQL, NoSQL can process unstructured data and is not bound by fixed schemas. So, in case of astronomical data we would need a big analyzing process and it must do whether the data is structured or unstructured. I would always go with NoSQL for Big Data.