Assignment - I

Title :- study of open source relational database : MySQL

Problem Statement :- To study open source relational database MySQL

Objective :-

To learn & understood the basic database architecture & the various components of it.
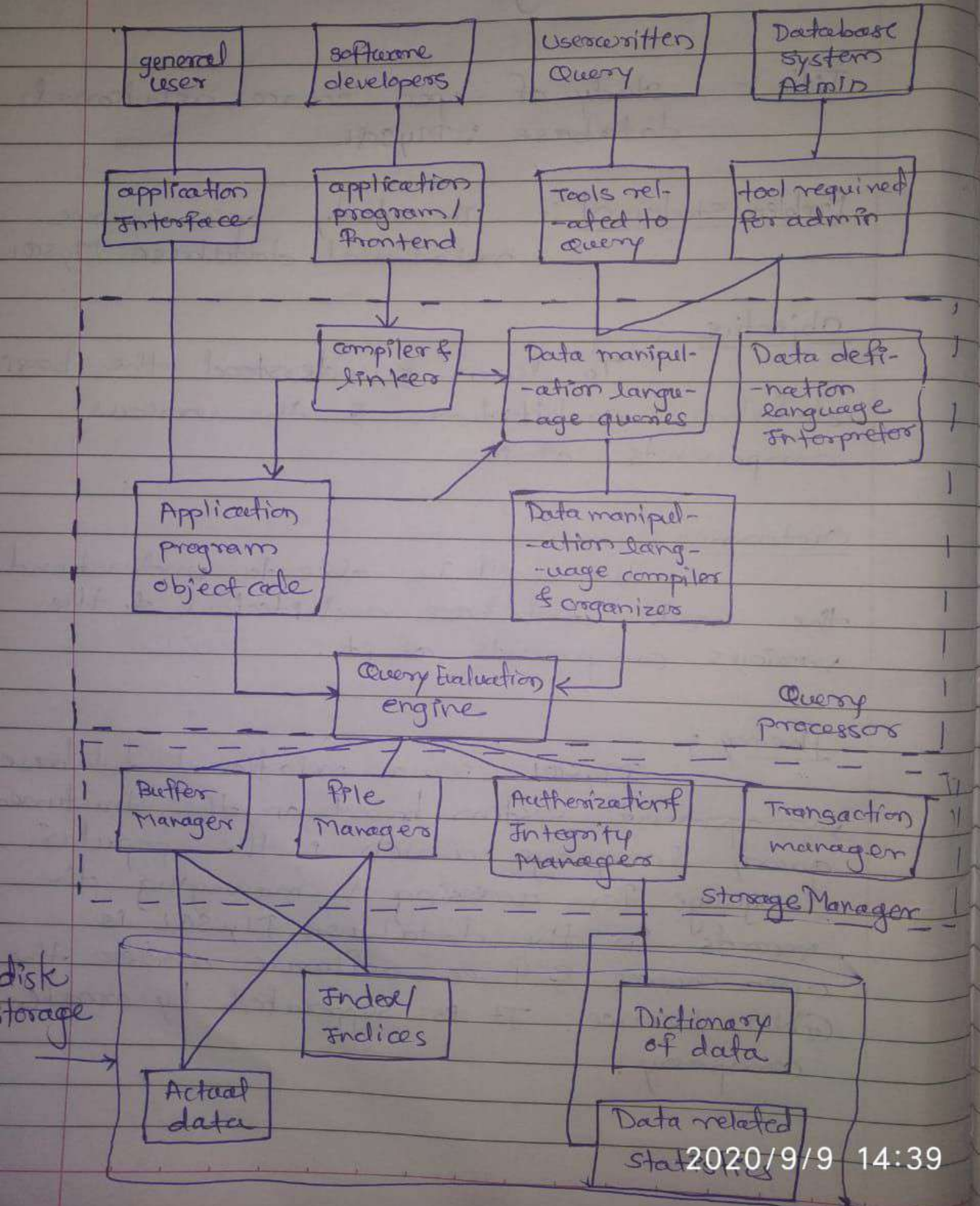
Outcomes :-

We will be able to understand the basic database architecture & the various components of it.

Theory :-

MySQL, is a relational database management system based on the structured query language, which is the popular language for accessing & managing the records in the database. MySQL is open source & free software under the GNU licence. It is supported by oracle company.

2020/9/9 14:38

Database Architecture

general user	software developers	Usercwritten Query	Database System Admin

application Interface	application program/ frontend	Tools rel- -ated to Query	tool required for admin

compiler & linker	Data manipul- -ation langu- -age queries	Data defi- -nation language Interpreter

Application program object code	Data manipul- - action lang- -uage compiler & organizers

Query Evaluation engine

Query processor

Buffer Manager	File Manager	Authorization & Integrity Manager	Transaction manager

Storage Manager

disk storage

Index/ Indices	Dictionary of data

Actual data	Data related

Stat 2020/9/9 14:39

Storage managers :-

1] Authorization & Integrity manager :-
It checks the Integrity constraints & checks the authority of the user access to the data
It also used to check the authorities of the users to access retrive or update the data from or to the database

2] File manager :-
File manager manages the allocation of space on disk. It allocates the required space to the files which are stored on the storage disk.

3] Transaction manager :-
A transaction is collection of operations that performs a single logical function in a database application
Transaction manager ensures that the database will be consistent ~~though~~ though the system gets failed.

4] Buffer manager :-
Buffer is temporary memory which is used to transfer data or information from one device to other.
Buffer manager manages the transfer of data from disk to main memory.

2020/9/9 14:39

Query processor

1. DDL interpreter

DDL interpreter interpretes or reads the DDL statements & records the definations of the file & adds it in the data dictionary.

2. DML compiler

DML compiler translate DML statements into the low level instructions low level instructions are understandable by query evaluation engine.

DML compiler generate the evaluation plans which are then chooser by query evaluation engine.

3. Query evaluation engine

Query evaluation engine executes the low level instructions generated by the DML compiler.

4. DML compiler & organizer :-

This compiler data manipul-ation languages into low level instruction & arranges or organizes the output

5. Compiler & linker :-

Compiler compiles the instructions given by user & the linker links the standard library. 2020/9/9 14:39

6. Application program object code :
          Source code & object
code refer to before & after versions
of a computer program that is compiled
before it is ready to run in computer

Conclusion :-
          In this assignment we have
studied the basic architecture of data
base & various components of it.

2020/9/9 14:39