SUBJECT SUBMISSION REPORT SH2020

Subject: Database Management System

Class: TE (A)

Name of student: JANMEJAY PATIL

College ID: TU3F1819039

Roll No: A-42

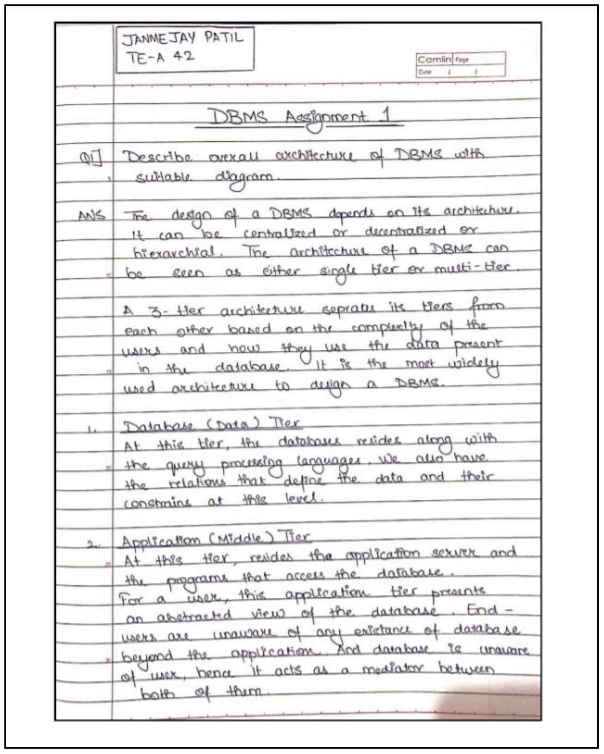
INDEX

Sr.No	particulars	Screenshot of Assignment (1st pg)with name and Roll no./submitted Reponses of quizzes/NPTEL score/course exit survey
1	Assignment1	
2	Assignment 2	
3	Mini Project	
4	Quiz 1-6	
5	NPTEL Score(optional)	
6	Course exit survey	
7		

Signature of students:

Note:Dear students please make pdf which consists of above document and submit it in Google classroom.

ASSIGNMENT 1



JANMEJAY PATIL
TE-A 42

DBMS Assignment 1

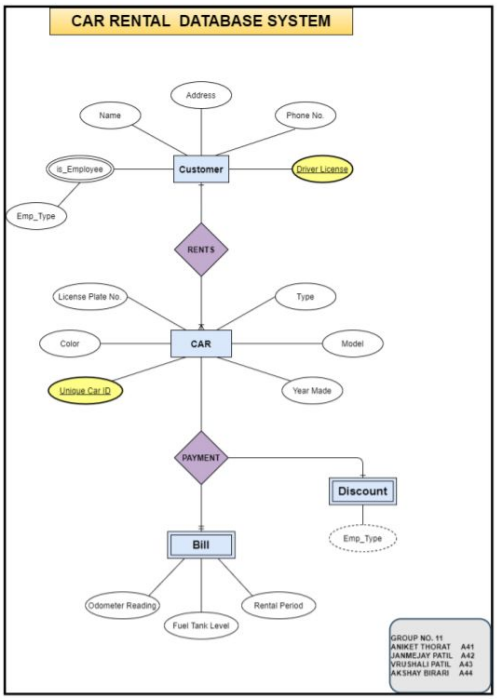
Q1. Describe overall architecture of DBMS with suitable diagram.

ANS The design of a DBMS depends on its architecture. It can be centralized or decentralized or hierarchical. The architecture of a DBMS can be seen as either single tier or multi-tier.

A 3-tier architecture separates its tiers from each other based on the complexity of the users and how they use the data present in the database. It is the most widely used architecture to design a DBMS.

1. Database (Data) Tier
At this tier, the database resides along with the query processing languages. We also have the relations that define the data and their constrains at this level.

2. Application (Middle) Tier
At this tier, resides the application servers and the programs that access the database. For a user, this application tier presents an abstracted view of the database. End-users are unaware of any existence of database beyond the application. And database is unaware of user, hence it acts as a mediator between both of them.



ASSIGNMENT 2

DBMS ASSIGNMENT NO. 2

Roll No. A-42	Name: JANMEJAY PATIL
Class: TE-A	Batch: A2
Date of Experiment:	Date of Submission
Grade :	

1. Difference between DML and DCL commands.

ANS:

DML(Data Manipulation Language): DML language consists of SQL commands that deal with the manipulation of data present in the database and this includes most of the SQL statements. This is a very fundamental category of SQL commands and includes most of the SQL statements. All the prominent functions that are performed on the data in a database like adding, inserting, deleting, modifying, or updating comes under DML.

Manipulation of the database objects, like tables or stored procedures, via the SQL schema rather than the data stored within them, is considered to be part of a separate data definition language (DDL). DML focuses on changing or altering the actual data/entries in the database.

DCL(Data Control Language): DCL language consists of SQL commands such as GRANT, REVOKE or DENY which deals with the access(rights, permissions, and other controls) of the database system. Data Control Language is the set of SQL Commands which look after the authentication/security management of the data for relational database management systems.

DCL helps to prevent unauthorized access to archived databases. Implementing these commands effectively maintains the database from anyone except the actual database administrator.

2. What is Normalization? Explain 1NF,2NF, 3NF &BCNF?

ANS:

Normalization or **Database Normalization** to be specific; is the process of arranging and organizing related data into a given table. It plays a prominent role in eliminating redundancy and keeping the integrity of the relational database which improves the performance of the query. Normalizing a database is the procedure to divide the database into tables and establish relationships between the tables. This helps the database administrator to keep a large amount of data presentable and easy to understand for everyone. Also, a normalized database has the optimized speed for query processing.

To overcome anomalies in the pre-existing database which is not normalized here are the most commonly used normal forms:

1NF (First Normal Form): This form restricts an attribute/column of a table to hold multiple values. Any individual column in a table should hold only one value.

2NF (Second Normal Form): Any given table is said to be in Second Normal Form if

1] It's already in First Normal Form and 2] should not have any partial dependency, ie, there should not exist any non-prime attribute in the table.

3NF (Third Normal Form): Any given table is said to be in Second Normal Form if

1] It's already in Second Normal Form and 2] if there is no transitive dependency for non-prime attributes

BCNF (Boyce and Codd Normal Form): BCNF is an extended version of 3NF because it includes all the rules of 3NF and in addition to it for every functional dependency X->Y, X should be the super key of the table.

3. Write a short note on ARIES & Shadow paging.

ANS:

ARIES which in Database Management perspective stands for **Algorithms for Recovery and Isolation Exploiting Semantics** is a recovery algorithm based on Write Ahead Log (WAL) protocol. The possible operations on the log record are as follows :

Undo-only log record: This operation allows us to log only the before image. Hence making it possible for an undo operation to retrieve the old data.

MINI PROJECT

"CAR RENTAL SYSTEM"

Mini Project
Submitted in partial fulfillment of the requirement of University of Mumbai
For the Degree of

(Computer Engineering)

By

1. **"ANIKET THORAT"** **"ID No: TU3F1819038"**
2. **"JANMEJAY PATIL"** **"ID No: TU3F1819039"**
3. **"VRUSHALI PATIL"** **"ID No: TU3F1819040"**
4. **"AKSHAY BIRARI"** **"ID No: TU3F1819041"**

Under the Guidance of

Prof. "**PRAMILA MATE**"

Department of Computer Engineering
TERNA ENGINEERING COLLEGE
Plot no.12, Sector-22, Opp. Nerul Railway station,
Phase-11, Nerul (w), Navi Mumbai 400706
UNIVERSITY OF MUMBAI
2020 -2021

Chapter 2
Introduction

The company does a car rental business and has several locations with different addresses. The cars are classified as subcompacts, compacts, sedans, or luxury. Each car has a particular make, model, year made, and color. Each car has a unique identification, number, and a unique license plate.
For every car, we keep the odometer reading and fuel tank reading and display it to the customer at the time of placing the order so he's aware of the present state and condition of the car. We charge the customers day-wise according to the price of the car rented.
We also allow our Employees to rent the cars as well, they go through the same portal and need to fill in the same information and being the employee they receive a discount on basis of their level of position in the company.
There is also an Employee Section mentioned on the website for the ADMIN to check on the database reports and to alter information from the database.

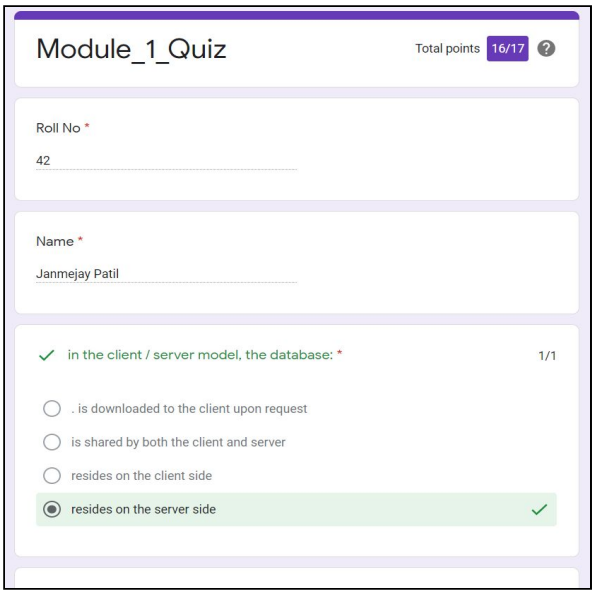
This project traverses a lot of areas ranging from business concept to the computing field and is required to perform several kinds of research to be able to achieve the project objectives.
The area covers include:

Car rental industry: This includes study on how the car rental business is being done, the process involved, and the opportunity that exists for improvement.
PHP Technology used for the development of the application.
General customers as well as the company's staff will be able to use the system effectively.
Web platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.

Existing System
In the present system, organizations do maintain a person for the allocating and proper functioning of transportation
The authorized person maintains the transportation details in papers

Problems in Existing System

QUIZZES



Module_1_Quiz

Total points 16/17

Roll No *

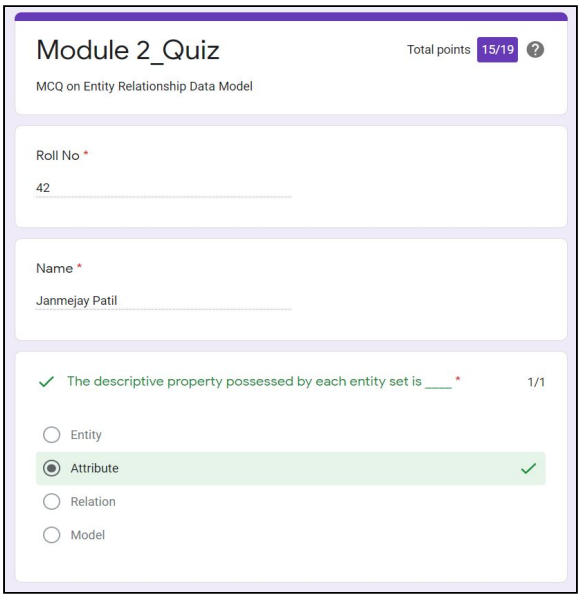
42

Name *

Janmejay Patil

✓ in the client / server model, the database: * 1/1

- . is downloaded to the client upon request
- is shared by both the client and server
- resides on the client side
- ✓ resides on the server side



Module 2_Quiz

Total points 15/19

MCQ on Entity Relationship Data Model

Roll No *

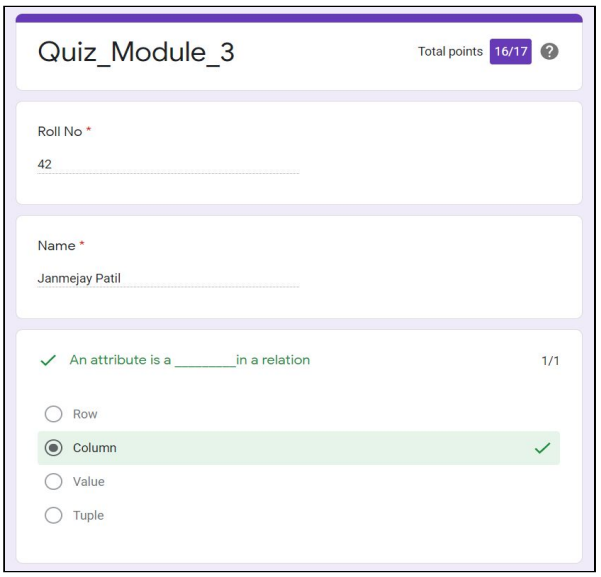
42

Name *

Janmejay Patil

✓ The descriptive property possessed by each entity set is ____ * 1/1

- Entity
- ✓ Attribute
- Relation
- Model



Quiz_Module_3

Total points 16/17

Roll No *

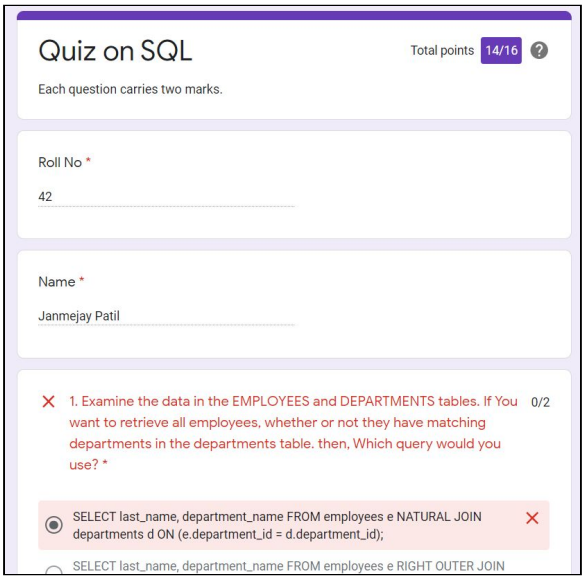
42

Name *

Janmejay Patil

✓ An attribute is a _____in a relation 1/1

- Row
- ✓ Column
- Value
- Tuple



Quiz on SQL

Total points 14/16

Each question carries two marks.

Roll No *

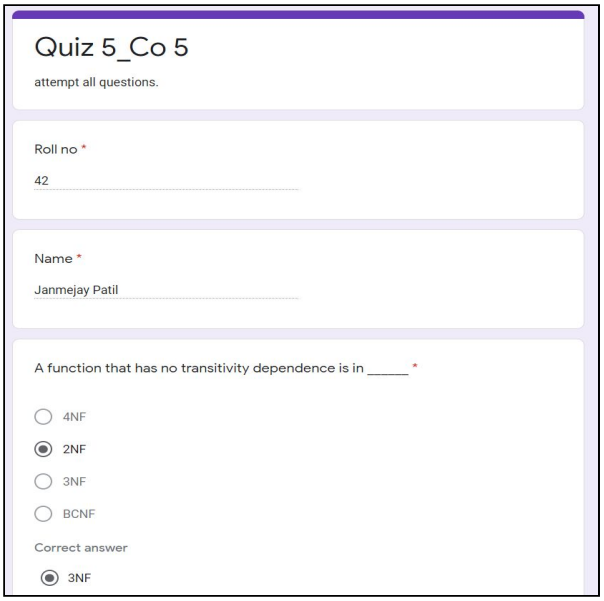
42

Name *

Janmejay Patil

✗ 1. Examine the data in the EMPLOYEES and DEPARTMENTS tables. If You want to retrieve all employees, whether or not they have matching departments in the departments table. then, Which query would you use? * 0/2

- ✗ SELECT last_name, department_name FROM employees e NATURAL JOIN departments d ON (e.department_id = d.department_id);
- SELECT last_name, department_name FROM employees e RIGHT OUTER JOIN



Quiz 5_Co 5

attempt all questions.

Roll no *

42

Name *

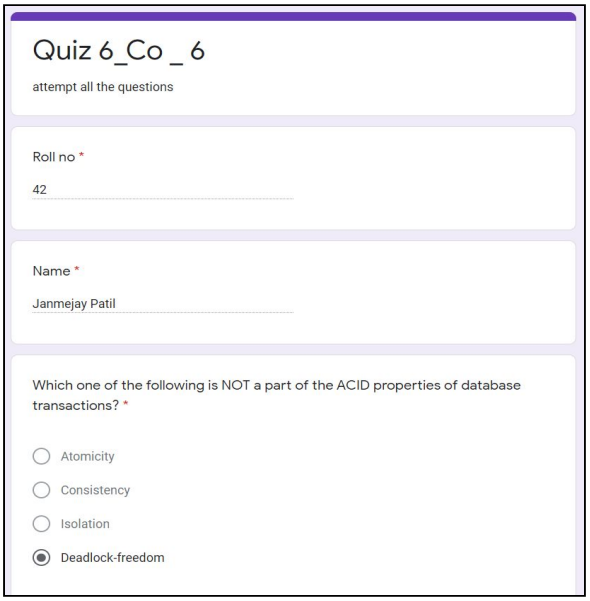
Janmejay Patil

A function that has no transitivity dependence is in _____ *

- 4NF
- ✓ 2NF
- 3NF
- BCNF

Correct answer

- 3NF



Quiz 6_Co _ 6

attempt all the questions

Roll no *

42

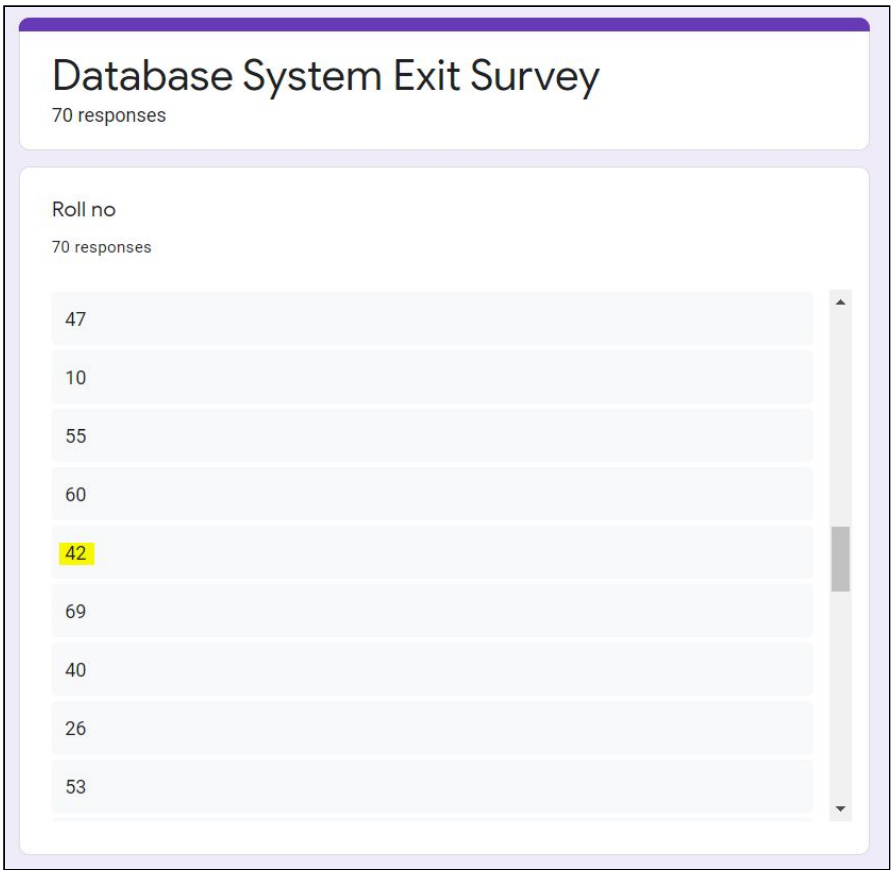
Name *

Janmejay Patil

Which one of the following is NOT a part of the ACID properties of database transactions? *

- Atomicity
- Consistency
- Isolation
- ✓ Deadlock-freedom

COURSE EXIT SURVEY



Database System Exit Survey

70 responses

Roll no

70 responses

47

10

55

60

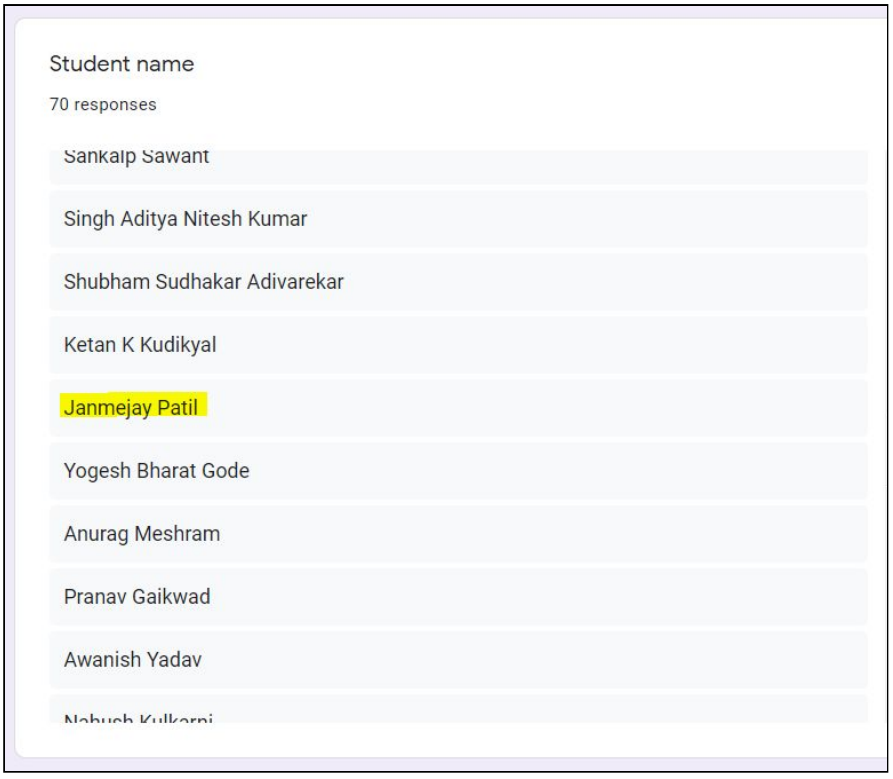
42

69

40

26

53



Student name

70 responses

Sankalp Sawant

Singh Aditya Nitesh Kumar

Shubham Sudhakar Adivarekar

Ketan K Kudikyal

Janmejay Patil

Yogesh Bharat Gode

Anurag Meshram

Pranav Gaikwad

Awanish Yadav

Nahush Kulkarni