

RELATIONAL DATABASE MANAGEMENT SYSTEM- CAR DATABASE

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OBJECTIVE:

The objective of this project is to derive the respected car brand with its required specifications from the database by making use of softwares like MySQL and D beaver.

APPLICATIONS USED:

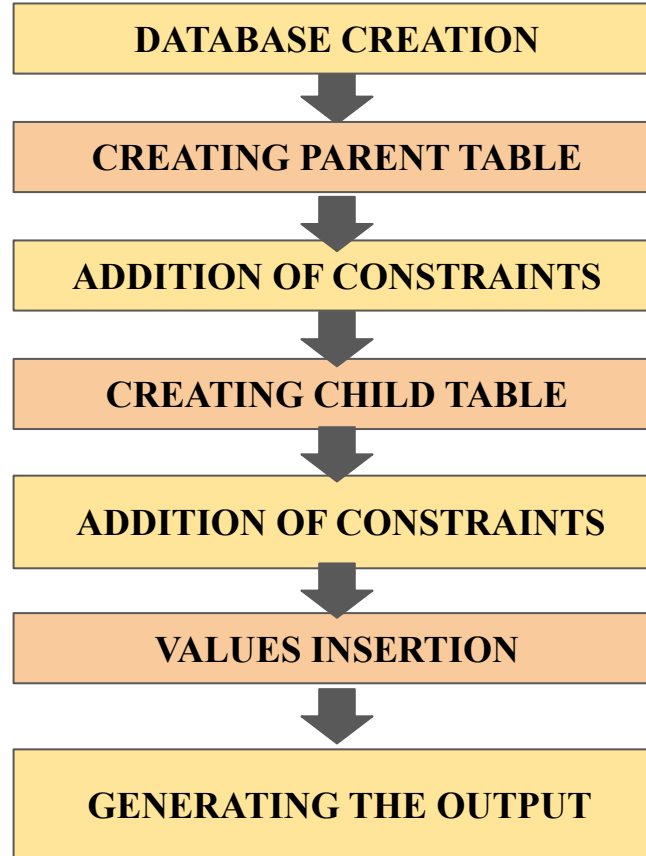
MySQL:

- MySQL is a relational database management system
- We have uses this application to execute our primary query.

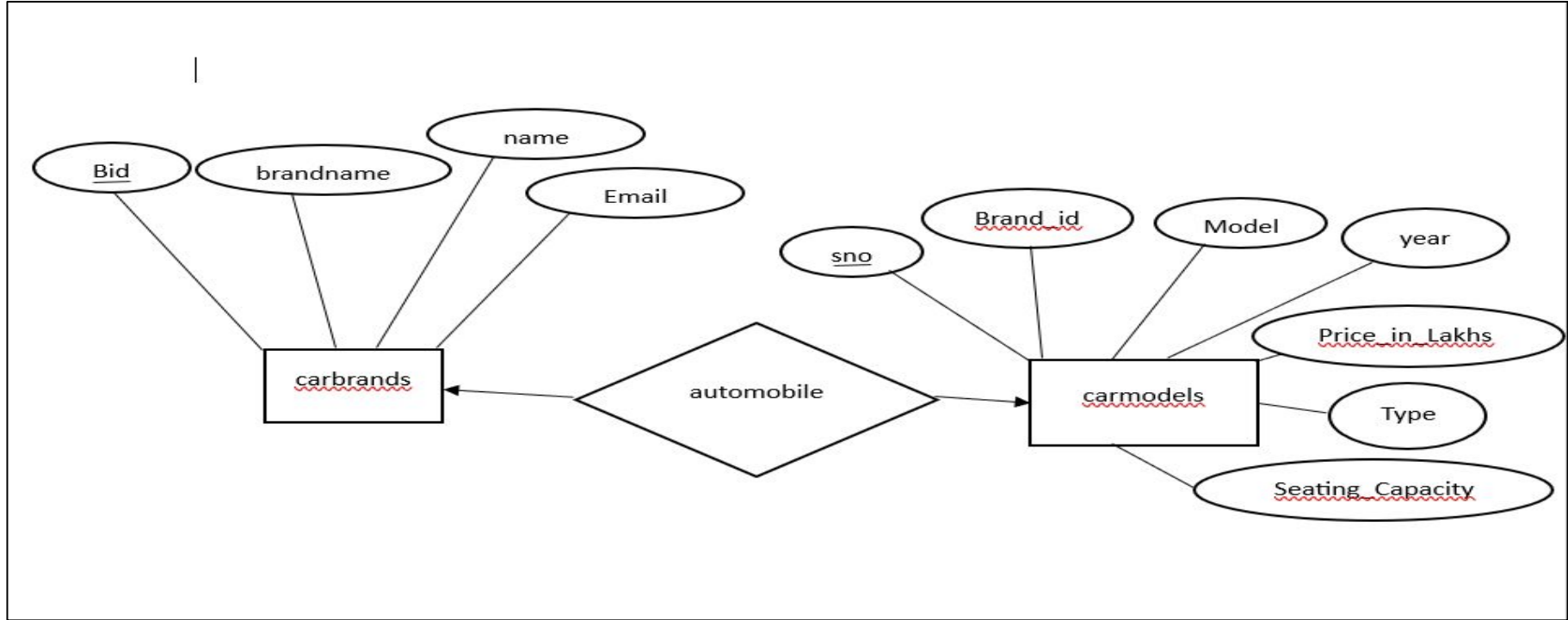
DBeaver:

- DBeaver is a SQL client software application and a database administration tool.
- One of the standout features of DBeaver is its extensive support for multiple database systems

FLOW CHART



ER DIAGRAM:



CREATING A DATABASE:

Syntax: *create database database_name;*

(*Create database automobile;*)

```
mysql> create database automobile;
Query OK, 1 row affected (0.01 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| automobile |
| hari      |
| information_schema |
| mysql     |
| performance_schema |
| sys       |
| vicky     |
+-----+
7 rows in set (0.00 sec)

mysql> _
```

CREATING A PARENT TABLE: car brands

Syntax:

create table car brands(Bid int primary key,Brand_Name varchar(100),Name varchar(100),Email varchar(100));

The screenshot displays the Database Navigator interface. On the left, the 'automobile' database is selected, showing its structure. The main window shows the SQL script for creating the 'car brands' table. Below the script, the 'columns' tab is active, displaying the table's schema. The schema table is as follows:

Field	Type	Null	Key	Default	Extra
Bid	int	NO	PRI	[NULL]	
Brand_Name	varchar(100)	YES		[NULL]	
Name	varchar(100)	YES		[NULL]	
Email	varchar(100)	YES		[NULL]	

The bottom status bar indicates that 4 rows were fetched in 4ms on 2023-08-13 at 20:46:38. The interface also shows a 'Project - General' tab with 'DataSource' selected.

ADDING CONSTRAINTS TO PARENT TABLE:

- 1.primary key
- 2.unique key
- 3.Not null

The screenshot displays a database management interface with two main panes. The left pane shows a project tree with a database named 'automobile' containing tables 'hari', 'sys', 'vicky', 'Users', 'Administer', and 'System Info'. The right pane shows a script editor with the following SQL code:

```
create table carbrands(Bid int primary key,Brand_Name varchar(100),Name varchar(100),Email varchar(100));  
  
alter table carbrands modify Brand_Name varchar(100) not null;  
alter table carbrands add unique key (Email);  
desc carbrands;
```

Below the script editor, a table structure view for 'carbrands' is shown. The table has four columns: Bid, Brand_Name, Name, and Email. The 'Bid' column is marked as a primary key (PRI) and is not null (NO). The 'Brand_Name' column is marked as not null (NO). The 'Name' column is marked as nullable (YES). The 'Email' column is marked as nullable (YES) and has a unique key (UNI).

#	Field	Type	Null	Key	Default	Extra
1	Bid	int	NO	PRI	[NULL]	
2	Brand_Name	varchar(100)	NO		[NULL]	
3	Name	varchar(100)	YES		[NULL]	
4	Email	varchar(100)	YES	UNI	[NULL]	

The bottom status bar indicates that 4 row(s) were fetched in 2ms on 2023-08-13 at 20:50:19. The interface also includes a 'Project - General' tab with 'Name' and 'DataSource' fields, and a 'DataSource' tab.

INSERTING VALUES TO PARENT TABLE:

The screenshot displays a database management interface with a script editor and a data grid. The script editor contains the following SQL commands:

```
create table carbrands (Bid int primary key, Brand_Name varchar(100), Name varchar(100), Email varchar(100));  
  
alter table carbrands modify Brand_Name varchar(100) not null;  
alter table carbrands add unique key (Email);  
desc carbrands;  
insert into carbrands (Bid, Brand_Name, Name, Email) values (1, 'Volkswagen', 'Harihara suthan', 'hariharasuthan918@gmail.com'), (2, 'Maruthi Suzuki', 'Tharun', 'chennaiharun06@gmail.com'), (3, 'Tata', 'Gowtham Ram', 'gowtham.tnbb@gmail.com'), (4, 'Mahindra', 'Saranya', 'saranyajeevabharathy@gmail.com');  
select * from carbrands;
```

Below the script editor, the 'carbrands 1' table is displayed in a grid view. The grid shows the following data:

	Bid	Brand_Name	Name	Email
1	1	Volkswagen	Harihara suthan	hariharasuthan918@gmail.com
2	2	Maruthi Suzuki	Tharun	chennaiharun06@gmail.com
3	3	Tata	Gowtham Ram	gowtham.tnbb@gmail.com
4	4	Mahindra	Saranya	saranyajeevabharathy@gmail.com

The interface also includes a sidebar with a project tree, a bottom status bar, and a right-hand pane for additional details.

CREATING CHILD TABLE: carmodels

The screenshot displays a database management interface with the following components:

- Script Editor:** Contains the SQL command:

```
create table carmodels(Sno int primary key,Brand_id int,Model varchar(100),year int,type varchar(100),Seating_Capacity int,Price_in_Lakhs FLOAT,foreign key(Brand_id
```
- Database Explorer:** Shows a tree view of databases including 'automobile', 'hari', 'sys', 'vicky', 'Users', 'Administer', and 'System Info'.
- Table Description:** A table with 7 columns is displayed below the script editor:

	Field	Type	Null	Key	Default	Extra
1	Sno	int	NO	PRI	[NULL]	
2	Brand_id	int	YES	MUL	[NULL]	
3	Model	varchar(100)	YES		[NULL]	
4	year	int	YES		[NULL]	
5	type	varchar(100)	YES		[NULL]	
6	Seating_Capacity	int	YES		[NULL]	
7	Price_in_Lakhs	float	YES		[NULL]	
- Grid View:** Shows the table structure with columns: Sno, Brand_id, Model, year, type, Seating_Capacity, Price_in_Lakhs.
- Status Bar:** Displays '7 row(s) fetched - 4ms (1ms fetch), on 2023-08-13 at 21:07:09'.

ADDING CONSTRAINTS TO PARENT TABLE:

- 1.Primary key
- 2.Foreign key
- 3.Check
- 4.Default

The screenshot shows a database management tool interface. The top pane displays a SQL script for creating and altering a table named `carmodels`. The script includes a primary key constraint on `Sno`, a foreign key constraint on `Brand_id`, and a check constraint on `year`.

```
create table carmodels(Sno int primary key,Brand_id int,Model varchar(100),year int,type varchar(100),Seating_Capacity int,Price_in_Lakhs FLOAT,foreign key(Brand_id)
alter table carmodels alter column Seating_Capacity set default '5';
alter table carmodels add check (year>=1983);
desc carmodels;
```

The bottom pane shows the structure of the `carmodels` table in a grid format:

Field	Type	Null	Key	Default	Extra
Sno	int	NO	PRI	[NULL]	
Brand_id	int	YES	MUL	[NULL]	
Model	varchar(100)	YES		[NULL]	
year	int	YES		[NULL]	
type	varchar(100)	YES		[NULL]	
Seating_Capacity	int	YES		5	
Price_in_Lakhs	float	YES		[NULL]	

The status bar at the bottom indicates that 7 rows were fetched and that all columns are read-only.

OUTCOME:

By employing softwares like MySQL and D beaver we were able to fetch details from the database and were able to produce the required results.

THANK YOU