if you want to give permission to other users to your table

grant <permission> on <object> To <user>

permission

|  |  |
| --- | --- |
| Select | Allow to execute select statement |
| Insert | Allow to execute insert statement |
| Update | Allow to execute update statement |
| Delete | Allow to execute delete statement |
| index | Allow to create index statement |
| create | Allow to create table statement |
| Alter | Allow to alter table statement |
| ALL | Grant all permission |
| Grant option | Allow user to grant permissions to other users |

object

name of database, or it can be a table name

user

user name of particular user

---grant select and insert permission to attendance table to user1

grant select,insert on attendancetab to ‘user1’@’localhost’

--------to grant all permission on dept table

grant all on knowitdb.emp to ‘user1’@’localhost’

----to grant select access to all users on localhost

grant select on knowitdb.rules to ‘\*’@’localhost’

to remove permissions

revoke <previleges> on <object> from user

|  |  |
| --- | --- |
| Select | Stop access to execute select statement |
| Insert | Stop access to execute insert statement |
| Update | Stop access to execute update statement |
| Delete | Stop access to execute delete statement |
| index | Stop access to create index statement |
| create | Stop access to create table statement |
| Alter | Stop access to alter table statement |
| ALL | Grant all permission |
| Grant option | Stop access user to grant permissions to other users |

----- to revoke permission

revoke delete,insert on emp from ‘user1’@’localhost’

revoke all on emp from ‘user1’@’localhost’

revoke delete,insert on emp from ‘\*’@’192.168.92.1’

------- to find all grants to each user

show grants for username

------ to find all user names

select user from mysql.user;

---- normalization

to design tables -----Data modelling

Cood’s rule----normalization

1NF,2NF,3NF,4NF (BCNF)(Boyce code normalization) (NF--- normalization form)

emp dept salgrade

flight ticket booking system

rental cloth

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Studentid | Sname | subid | Subject name | marks | Phone number |
| 1 | Aditya | 15 | Java | 99 | 1234,345,678 |
| 1 | Aditya | 12 | Dbms | 98 | 1234,345,678 |
| 1 | Aditya | 13 | Web | 97 | 1234,345,678 |
| 2 | Akash | 15 | Java | 95 | 111,222 |
| 2 | Akash | 12 | dbms | 94 | 111,222 |
| 2 | Akash | 13 | web | 91 | 111,222 |
| 3 | Ajit | 14 | Java | 99 | 1234,345,678 |
|  |  |  |  |  |  |

1. insertion anamoly
2. updatation anmoly
3. deleteion anamoly

all these drawbacks are because of redundancy of data

if we tray to delete marks for java exam then we will also loose the information of few students who has given only java exam this is called as deletion anamoly

if you want to add new student in the table, we cannot add only sid and sname

this is insertion anamoly

if you change subid at one place and forgot to change it at other places. this will create updation anamoly

Data modeling

1NF ----- every table should contain atomic value. It means that every row and column should contain single value.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Studentid | Sname | subid | Subject name | marks |
| 1 | Aditya | 15 | Java | 99 |
| 1 | Aditya | 12 | Dbms | 98 |
| 1 | Aditya | 13 | Web | 97 |
| 2 | Akash | 15 | Java | 95 |
| 2 | Akash | 12 | dbms | 94 |
| 2 | Akash | 13 | web | 91 |
| 3 | Ajit | 14 | Java | 99 |

In the given table phone number is multivalued attribute so it is not in 1NF

student-phone

|  |  |
| --- | --- |
| Studentid | Phone number |
| 1 | 1234 |
| 1 | 345 |
| 1 | 678 |
| 2 | 111 |
| 2 | 222 |

since both these table contains atomic value in each row and column so the table is in 1NF

To check are these tables in 2NF

1. The table should be in 1 NF
2. if there is no partial dependency

if any non prime attribute(attribute which is not a part of candidate key) is dependent on portion of the candidate key.

candidate key(student id, subjectid)

prime attributes ----- student id, sub id

non prime ---- sname,subname,marks

find functional dependencies

{student id----🡪 student name

subid ---🡪 subject name

studentid+subject---🡪marks}

|  |  |  |
| --- | --- | --- |
| Studentid | subid | marks |
| 1 | 15 | 99 |
| 1 | 12 | 98 |
| 1 | 13 | 97 |
| 2 | 15 | 95 |
| 2 | 12 | 94 |
| 2 | 13 | 91 |
| 3 | 14 | 99 |

student

|  |  |
| --- | --- |
| Studentid | Sname |
| 1 | Aditya |
| 2 | Akash |
| 3 | Ajit |
|  |  |

subject

|  |  |
| --- | --- |
| subid | Subject name |
| 15 | Java |
| 12 | Dbms |
| 13 | Web |
|  |  |

(stdid,courseid,fees)

1 11 50000

1 12 50000

2 11 50000

2 12 50000

studentid coursed

coursid,course fees

studid,coursed

---- check are they 3 NF

the table should be 2 NF

table is in 3NF if it do not have transitive dependency for non prime attributes

a relation is in 3NF if every non trivial functional dependency x🡪y

1. X should be super key
2. y is prime attribute(each y should be part of some candidate key

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Student id | Sname | State | City | email | Phone |
| 1 | Rajesh | Bihar | Patna | rrr@skdjf | 1111 |
| 2 | Raghav | Maharashtra | Mumbai | sss@fgh | 2222 |
| 3 | Rajesh | Maharashtra | Mumbai | rss@kj | 333 |

a->b ->c a->c a---prime attribute b ---- non prime attribute c---- non prime

fd==={studenid->studentname,studno->state,sudentid->city,studentid->email,studentid->phone number,city->state}

studentid

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Student id | Sname | City | email | Phone |
| 1 | Rajesh | Patna | rrr@skdjf | 1111 |
| 2 | Raghav | Mumbai | sss@fgh | 2222 |
| 3 | Rajesh | Pune | rss@kj | 333 |

|  |  |
| --- | --- |
| State | City |
| Bihar | Patna |
| Maharashtra | Mumbai |

------check whether table is in 4 NF

1. should be in 3 NF
2. for dependency X->Y then X should super key

X cannot be non prime attribute if B is prime attribute

In the given table the rule is one faculty teaches only one course

but one course can be taught by many faculties.

|  |  |  |
| --- | --- | --- |
| Student id | Subject | Faculty |
| 1 | Java | Xxxx |
| 1 | C++ | Yyyy |
| 2 | Java | Xyz |
| 3 | Dbms | Zzzz |
| 4 | Java | Xxxx |

a faculty is assigned to a student for a particular course

and there are multiple faculties who teaches same course

studentid+subject ----primary

prime attribute ----- studet id, subject

faculty->subject

since prime attribute subject is dependetnt on non prime attribute faculty so the table is not in BCNF

|  |  |  |
| --- | --- | --- |
| Student id | Subject | Faculty |
| 1 | Java | Xxxx |
| 1 | C++ | Yyyy |
| 2 | Java | Xyz |
| 3 | Dbms | Zzzz |
| 4 | Java | Xxxx |

faculty subject

|  |  |  |
| --- | --- | --- |
| facultyid | Subject | Faculty |
| 1 | Java | Xxxx |
| 2 | C++ | Yyyy |
| 3 | Java | Xyz |
| 4 | Dbms | Zzzz |
|  |  |  |

student faculty

|  |  |
| --- | --- |
| Student id | Faculty id |
| 1 | 1 |
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |
| 4 | 1 |