|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Studid | Sname | cid | Cname | Fid | Fname | Email | marks |
| 1 | Djh | 100 | Database | 1 | Kishori | abc@gmail.com,wert@rediff.com | 99 |
| 1 | Djh | 101 | Java | 2 | Madhura | abc@gmail.com,wert@rediff.com | 99 |
| 2 | ettty | 100 | Database | 1 | Kishori | eee@gmail.com,wwww@yahoo.com,rrr@rediff.com | 98 |
| 2 | ettty | 102 | Data structure | 2 | Ganesh | Eee11@gmail.com,wwww123@yahoo.com | 98 |

1 NF – table is in 1NF iff every row and column contains atomic values.

Sid,cid sid,cname sid,fid

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Studid | Sname | cid | Cname | Fid | Fname | marks |
| 1 | Djh | 100 | Database | 1 | Kishori | 99 |
| 1 | Djh | 101 | Java | 2 | Madhura | 99 |
| 2 | ettty | 100 | Database | 1 | Kishori | 98 |
| 2 | ettty | 102 | Data structure | 2 | Ganesh | 98 |

Sid,cid ---🡪marks

Sid---🡪sname

cid--🡪cname,fid,fname

|  |  |
| --- | --- |
| sid | emailid |
| 1 | abc@gmail.com |
| 1 | wert@rediff.com |
| 2 | Abc1@gmail.com |
| 2 | [wert@rediff.com](mailto:wert@rediff.com) |
|  | eee@gmail.com |

What is 2NF

----- table should be in 1NF

------ if all non key columns are functionally dependent on complete primary key

Studet

|  |  |
| --- | --- |
| Sid | sname |
| 1 | Djh |
| 2 | ettty |

Course

|  |  |  |  |
| --- | --- | --- | --- |
| cid | Cname | Fid | fname |
| 100 | Database | 1 | Kishori |
| 101 | Java | 2 | Madhura |
| 102 | Data structure | 3 | Ganesh |

marks

|  |  |  |
| --- | --- | --- |
| Sid | cid | marks |
| 1 | 100 | 99 |
| 1 | 101 | 99 |
| 2 | 100 | 98 |
| 2 | 102 | 98 |

Email

|  |  |
| --- | --- |
| sid | emailid |
| 1 | abc@gmail.com |
| 1 | wert@rediff.com |
| 2 | Abc1@gmail.com |
| 2 | [wert@rediff.com](mailto:wert@rediff.com) |
|  | eee@gmail.com |

What is 3 NF

------table should be in 2 NF

------- No transitive dependency

a-🡪B-🡪c => a->c

|  |  |  |
| --- | --- | --- |
| cid | Cname | fid |
| 100 | Database | 1 |
| 101 | Java | 2 |
| 102 | Data structure | 3 |
|  |  |  |

|  |  |
| --- | --- |
| Fid | fname |
| 1 | Kishori |
| 2 | Madhura |
| 3 | Ganesh |

Course

Student

Faculty

Example 2

* **roomno**
* **customerno**
* **booking date**
* **mgrno**

**managername**

**contact ---(custnum,email)**

**roomno--------- rname,roomlocattion,rate of room**

**customer num ---- cname, ,city,state, roomno+cust0merno+booking date ------- mgrno**

mgrno----🡪mgrname

Order items

Item no name qty price

Item master

Item no name qty price