**Dev Kshitij Patel**

**Lab 10 – Normalization 2**

**(2NF, 3NF)**

**Objective:**

**Students will learn:**

* To continue the **normalization** of user views from **1NF** to **2NF and 3NF**
* How to identify and remove **partial dependencies**
* How to identify and remove **transitive dependencies**

**Submission:**

***You only need to submit the final part of this lab, Your name and student ID MUST be in the PDF file or you will receive a mark of zero.***

**Definitions:**

Definition**:** A relation is in 1NF if it contains no multi-valued dependencies (also known as repeating groups).

Definition**:** A relation is in 2NF it is in 1NF and it contains no Partial Dependencies.

Definition:A Partial Dependency occurs when a non-key attribute(s) is dependent on (or is determined by) a part of a composite primary key.

Definition**:** A relation is in 3NF it is in 2NF and it contains no Transitive Dependencies.

Definition**:** A Transitive Dependency occurs when a non-key attribute (s) is dependent on (or is determined by) another non-key attribute.

**Instructions:**

**Lab 9 Submission:**

**For the following User View, determine the 1, 2 and 3NF and hand in this page to your instructor. The UNF relation has been provided.**

**Premiere Corporation**

**Order Detail Report**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Order Number** | **Order Date** | **Cust Number** | **Cust Last Name** | **Part Number** | **Part Desc** | **Qnty Ordered** | **Quoted Price** |
| 12489 | 2016-09-02 124 | 124 | Adams | AX12 | Iron | 11 | 14.95 |
| 12491 | 2016-09-02 311 | 311 | Charles | BT04 | GasGrill | 3 | 440.00 |
| BZ66 | Washer | 1 | 399.99 |
| CX11 | MiniBlender | 1 | 11.98 |
| 12494 | 2016-09-04 | 315 | Daniels | CB03 | Bike | 4 | 279.96 |
| 12495 | 2016-09-04 | 256 | Samuels | CX11 | MiniBlender | 2 | 23.96 |
| 12498 | 2016-09-05 | 522 | Nelson | AZ52 | Dartboard | 2 | 12.96 |
| BA74 | Basketbal | 4 | 24.96 |
| 12500 | 2016-09-05 | 124 | Adams | BT04 | GasGrill | 1 | 149.99 |
| 12504 | 2016-09-05 | 522 | Nelson | CZ81 | Treadmill | 2 | 325.98 |

**UNF:**

**Order** [**CK** OrderNo, Orderdate, CustNo, CustLname, (PartNo, PartDesc, QtyOrd, Price)]

**1NF:**

**[CK OrderNo, Orderdate, custNo, CustLname, (PartNo, PartDesc, QtyOrd, Price)]**

**Partial dependency;-**

**a) Customer No to Customer Name**

**b) Part Number to Part Description**

**c) Order Number to Order Date**

**2NF:**

Customer [Customer Number, Customer Name]

Order [Order number, Order Date, Customer Number (PK)]

Part [ Part Number, Part Description]

BrOrderParts [Order number (PK, FK), Part number (PQty ordered, quoted Price]

**3NF:**

**The above 2NF is in 3NF forms, because there is no transitional dependency in this phase.**

**Customer [Customer Number, Customer Name]**

**Order[ Order number, Order Date, Customer Number]**

**Part [ Part Number, Part Description]**

**BrOrderParts [Order number (PK, FK) , Part Number ,Qty ordered, quoted Price]**