**Auction Management System**

* **Auction ( Acode, Aname , Duration , Adate, Atime, Pincode, city, Host\_AadharNo)**
* Acode 🡪 Aname
* Acode 🡪 Duration
* Acode 🡪Adate
* Acode 🡪 Atime
* Acode 🡪 Pincode
* Pincode 🡪 city
* Acode 🡪 Host\_AadharNo
* Acode+ = {Aname,Duration,Adate,Atime,Pincode,city,Host\_AadharNo}
* The relation is in 2NF. so city should not be here .

NORMALIZED RELATION:

**Auction( Acode , Aname , Duration , Adate, Atime, Pincode, Host\_AadharNo)**

* Acode 🡪 Aname,Duration,Adate,Atime,Pincode,Host\_AadharNo
* **Auction\_Location (Pincode, City, Address, Alocation\_Size)**
* Pincode 🡪 Address
* Pincode 🡪 City
* Pincode 🡪 Allocation\_Size
* Pincode+ = {Pincode,City,Address,Allocation\_Size}
* The Relation is in BCNF Form.

NORMALIZED RELATION:

**Auction\_Location(Pincode,City,Address,Allocation\_Size)**

* Pincode 🡪 Address,City,Allocation\_Size
* **Employee(Aadharno, EName, Gender, Email, ContactNo, Address, IsHost, IsOrganizer)**
* Aadharno 🡪 EName
* Aadharno 🡪 Gender
* Aadharno 🡪 ContactNo
* Aadharno 🡪 Address
* Aadharno 🡪 Email
* Aadharno+ = {Aadharno ,Ename, Gender, ContactNo, Address, Email}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Employee(Aadharno, Ename, Gender, ContactNo, Address, Email)**

* Aadharno 🡪 Aadharno,Ename,Gender,ContactNo,Address,Email
* **Auction\_Organized(Acode, Aadharno)**
* {Acode, Aadharno} 🡪 Acode
* {Acode, Aadharno} 🡪Aadharno
* {Acode, Aadharno}+  = { Acode, Aadharno}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Auction\_Organized(Acode , Aadharno)**

* {Acode,Aadharno} 🡪 {Acode,Aadharno}
* **Auction\_Participants(Acode, Part\_Aadharno)**
* {Acode, Part\_Aadharno} 🡪 Part\_AadharNo
* {Acode, Part\_Aadharno} 🡪Acode
* {Acode, Part\_Aadharno}+  = { Acode, Part\_Aadharno}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Auction\_Partcipants(Acode , Part\_Aadharno)**

* {Acode,Part\_Aadharno} 🡪 {Acode,Part\_Aadharno}
* **Bidding\_Process(Pcode, Increasing\_Rate, Final\_Price)**
* Pcode 🡪 Increasing\_Rate
* Pcode 🡪 Final\_Price
* {Pcode}+  = { Increasing\_Rate, Final\_Price}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Bidding\_Process(Pcode, Increasing\_Rate, Final\_Price)**

* Pcode 🡪 {Increasing\_Rate, Final\_Price}
* **Bids(Pcode, Bidno, Amount)**
* {Pcode,Bidno} 🡪 Amount
* {Pcode, Bidno}+  = {Pcode, Bidno, Amount}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Bids(Pcode, Bidno, Amount)**

* {Pcode, Bidno} 🡪 {Amount}
* **Product\_Owner(AadharNo, Owner\_Name, Gender, Email, ContactNo, Address)**
* AadharNo 🡪 Owner\_Name
* AadharNo 🡪 Gender
* AadharNo 🡪 Email
* AadharNo 🡪 ContactNo
* AadharNo 🡪 Address
* {AadharNo}+ ={AadharNo,OwnerName,Gender,Email,ContactNo, Address}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Product\_Owner(AadharNo, Owner\_Name, Gender, Email, ContactNo, Address)**

* {AadharNo} 🡪 {OwnerName, Gender, Email, ContactNo, Address}
* **Revenue (Transaction\_ID, Type , Acode)**
* Transaction\_ID 🡪 Type, Acode
* {Transactio\_ID }+  = { Type, Acode}
* The Relation is in BCNF.

NORMALIZED RELATION:

**Revenue (Transaction\_ID, Type , Acode)**

* Transaction\_ID 🡪 Type, Acode
* **Commission(Com\_Transaction\_ID,Amount,Mode\_of\_Payment,Tdate, PCode)**
* Com\_Transaction\_ID 🡪 Amount,Mode\_of\_Payment
* Com\_Transaction\_ID 🡪 Tdate
* Com\_Transaction\_ID 🡪 PCode
* { Com\_Transaction\_ID }+  = { Amount,Mode\_of\_Payment,Tdate,PCode }
* The Relation is in BCNF.

NORMALIZED RELATION:

**Commission(Com\_Transaction\_ID,Amount,Mode\_of\_Payment,Tdate,PCode)**

* Com\_Transaction\_ID 🡪 Amount,Mode\_of\_Payment,Tdate,PCode
* **Fees(Fee\_Transaction\_ID,Amount,Mode\_of\_Payment,Tdate,**

**Owner\_AadharNo, Participant\_AadharNo)**

* Fee\_Transaction\_ID 🡪 Amount
* Fee\_Transaction\_ID 🡪 Mode\_of\_Payment
* Fee\_Transaction\_ID 🡪 Tdate,Owner\_Aadhar\_No
* Fee\_Transaction\_ID 🡪 Participant\_AadharNo
* { Fee\_Transaction\_ID }+  = { Amount,Mode\_of\_Payment,Tdate, Owner\_Aadhar\_No, Participant\_AadharNo }
* The Relation is in BCNF.

NORMALIZED RELATION:

**Fees(Fee\_Transaction\_ID,Amount,Mode\_of\_Payment,Tdate,**

**Owner\_AadharNo,Participant\_AadharNo)**

* Fee\_Transaction\_ID 🡪 Amount,Mode\_of\_Payment,Tdate,Owner\_Aadhar\_No, Participant\_AadharNo