

**BLOOD BANK MANAGEMENT SYSTEM**

**A PROJECT REPORT**

*Submitted by*

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*In partial fulfilment of the requirements for the degree of*

**BACHELOR OF TECHNOLOGY**

**in**

**COMPUTER SCIENCE AND ENGINEERING**

**with a specialization in BIG DATA ANALYTICS**



**FACULTY OF ENGINEERING AND**

**TECHNOLOGY**

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**BONAFIDE CERTIFICATE**

Certified that this B.Tech project report titled “**BLOOD BANK MANAGEMENT SYSTEM**” is the bonafide work of Mr.C.H.S.K.Gowtham [Reg. No.: RA2211027010149] and Ms. S.SaiCharani [Reg. No.RA2211027010186] who carried out the project work under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion for this or any other candidate.

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# UN Normalized Table:

Donor\_id =1 is having composite attribute.

So , inorder to normalize this table convert this table to 1NF.

```
C:\Users\chara\Downloads\in  × + v
SQL*Plus: Release 11.2.0.4.0 Production on Tue Apr 16 20:36:24 2024
Copyright (c) 1982, 2013, Oracle. All rights reserved.
Enter user-name: admin/Cherry02@charani.cx02iwmui08.us-east-1.rds.amazonaws.com:1521/orcl
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
SQL> select * from bloodbank;

  DONOR_ID NAME      AGE  BLOOD_ID BLO CITY              CITY_ID COUNTRY
-----
1 cherry      18      1 A+  chennai,kadiri      1 india
2 gowtham     18      2 B-  chennai              1 india
3 cooper      17      1 A+  tanuku               2 india
4 swarna      41      2 B-  kadiri               3 india
5 sudha       45      3 AB+ kadiri               3 india

SQL>
```

# 1NF Table:

Composite attribute is rectified.

Multi-Valued Attributes should be removed.

So,inorder to normalize the table it should be converted to 2NF.

```
C:\Users\chara\Downloads\ln X + v
Enter user-name: admin/Cherry02@charan1.cx02imuu108.us-east-1.rds.amazonaws.com:1521/orcl
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
SQL> create table bloodbankdetails(donor_id int,name varchar(7),age int,blood_id int,blood_type varchar(3),city varchar(7),city_id int,country varchar(7));
Table created.
SQL> INSERT INTO bloodbankdetails(Donor_id, Name, age, blood_id, blood_type, city, city_id, country)
  2  VALUES (1, 'cherry', 18, 1, 'A+', 'chennai', 1, 'india');
1 row created.
SQL> INSERT INTO bloodbankdetails(Donor_id, Name, age, blood_id, blood_type, city, city_id, country)
  2  VALUES (1, 'cherry', 18, 1, 'A+', 'kadiri', 3, 'india');
1 row created.
SQL> INSERT INTO bloodbankdetails(Donor_id, Name, age, blood_id, blood_type, city, city_id, country)
  2  VALUES (2, 'gowtham', 18, 2, 'B-', 'chennai', 1, 'india');
1 row created.
SQL> INSERT INTO bloodbankdetails(Donor_id, Name, age, blood_id, blood_type, city, city_id, country)
  2  VALUES (3, 'cooper', 17, 1, 'A+', 'tanuku', 2, 'india');
1 row created.
SQL> INSERT INTO bloodbankdetails(Donor_id, Name, age, blood_id, blood_type, city, city_id, country)
  2  VALUES (4, 'swarna', 41, 2, 'B-', 'kadiri', 3, 'india');
1 row created.
SQL> INSERT INTO bloodbankdetails(Donor_id, Name, age, blood_id, blood_type, city, city_id, country)
  2  VALUES (5, 'sudha', 45, 3, 'AB+', 'kadiri', 3, 'india');
1 row created.
SQL> select * from bloodbankdetails;
DONOR_ID NAME      AGE BLOOD_ID BLO CITY      CITY_ID COUNTRY
-----
1 cherry      18      1 A+  chennai      1 india
1 cherry      18      1 A+  kadiri       3 india
2 gowtham     18      2 B-  chennai      1 india
3 cooper      17      1 A+  tanuku       2 india
4 swarna      41      2 B-  kadiri       3 india
5 sudha      45      3 AB+ kadiri       3 india
6 rows selected.
SQL>
```

## 2NF:

Table to be in 2NF it should satisfy 1NF.

Partial dependencies should be removed.

So, in order to normalize 2NF should be converted to 3NF.

```
SQL> select * from donor_blood;
```

DONOR_ID	NAME	AGE	BLOOD_ID	CITY_ID
1	cherry	18	1	1
1	cherry	18	1	3
2	gowtham	18	2	1
3	cooper	17	1	2
4	swarna	41	2	3
5	sudha	45	3	3

6 rows selected.

```
SQL> select * from blood_data;
```

BLOOD_ID	BLOOD_TYPE
1	A+
2	B-
3	AB+

```
SQL> select * from city_country;
```

CITY_ID	CITY	COUNTRY
1	chennai	india
2	tanuku	india
3	kadiri	india

```
SQL>
```

## 3NF:

FOR 3NF , Table should satisfy both 1NF, 2NF.

Transitive dependencies should be removed in 3NF .

So, inorder to normalize this table should be converted to 4NF.

```
SQL> select * from donor_blood;
```

DONOR_ID	NAME	AGE	BLOOD_ID	CITY_ID
1	cherry	18	1	1
1	cherry	18	1	3
2	gowtham	18	2	1
3	cooper	17	1	2
4	swarna	41	2	3
5	sudha	45	3	3

6 rows selected.

```
SQL> select * from blood_data;
```

BLOOD_ID	BLOOD_TYPE
1	A+
2	B-
3	AB+

```
SQL> select * from city_details;
```

CITY_ID	CITY
1	chennai
2	tanuku
3	kadiri

```
SQL> select * from country_details;
```

CITY	COUNTRY
chennai	india
tanuku	india
kadiri	india

# BCNF Table:

For table to be in BCNF, it should satisfy 3NF,2NF,1NF.

Every Table should have atleast 1 primary key.

So , in order to normalize this table it should converted to 4NF, 5NF.

```
SQL> select * from donor_blood;
```

DONOR_ID	NAME	AGE	BLOOD_ID	CITY_ID
1	cherry	18	1	1
1	cherry	18	1	3
2	gowtham	18	2	1
3	cooper	17	1	2
4	swarna	41	2	3
5	sudha	45	3	3

```
6 rows selected.
```

```
SQL> select * from blood_data;
```

BLOOD_ID	BLOOD_TYPE
1	A+
2	B-
3	AB+

```
SQL> select * from city_details;
```

CITY_ID	CITY
1	chennai
2	tanuku
3	kadiri

```
SQL> select * from cityid_country;
```

CITY_ID	COUNTRY
1	india
2	india
3	india