

**MINI PROJECT**

*Submitted by*

**MANTHURI HRITHIKESH[RA2011028010133]  
KOLLI LOKA PRASHANTH  
REDDY[RA201108010111]  
NUNE NITESH[RA2011028010140]**

*Under the Guidance of*

**MS.T.Y.J. Nagamalleswari**

**Professor**

**Department of Data Base Management System**

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

**BACHELOR OF TECHNOLOGY  
in  
COMPUTER SCIENCE ENGINEERING**

**with specialization in Cloud Computing**



**SCHOOL OF COMPUTING**

**COLLEGE OF ENGINEERING AND  
TECHNOLOGY SRM INSTITUTE OF SCIENCE  
AND TECHNOLOGY KATTANKULATHUR –**

**603203 JUNE 2022**

# **BLOOD BANK MANAGEMENT**

## **ABSTRACT**

With an increase in the population there is an increase in the need of blood. The growing population of the world results in a lot of potential blood donors. But in spite of this not more than 10% of the total world population participates in blood donation. With the growing population and the advancement in medical science the demand for blood has also increased.

Due to the lack of communication between the blood donors and the blood recipients, most of the patients in need of blood do not get blood on time and hence lose their lives. There is a dire need of synchronization between the blood donors and hospitals and the blood banks. This improper management of blood leads to wastage of the available blood inventory.

## **OBJECTIVE:**

Blood Bank Management System (BBMS) is a browser based system that is designed to store, process, retrieve and analyze information concerned with the administrative and inventory management within a blood bank. This project aims at maintaining all the information pertaining to blood donors, different blood groups available in each blood bank and help them manage in a better way. Aim is to provide transparency in this field, make the process of obtaining blood from a blood bank hassle free and corruption free and make the system of blood bank management effective. Our client is not interested in blood stocking instead we are stocking blood donors information. The donors who are interested in donating blood has to register in the database. There is no storage of blood so no complications in the project. The software is fully integrated with CRM (customer relationship management) as well as CMS (content management system) solution. It is developed in a manner that is easily manageable, time saving and relieving one from manual works. The requirement of the blood has to be requested and we supply the information of the donor. The donors can update their status whether they are available or not.

## **DESIGN:**

**The following Entities are used in our Database:**

- 1). Donor
- 2). Blood.
- 3). Blood bank.
- 4). Patient.

**Donor** : Each donor Entity has a Name, Dob and Address associated with it.

→ One Donor can donate 1 kind of blood group.

### **Blood:**

Each blood Entity has associated with it a code ,blood type and quantity of blood.

→ n different blood groups will be sent to 1 blood bank.

### **Blood bank:**

Every blood bag is sent to blood bank with a certain code Number and Total quantity.

→ n different Blood bags can be present in One blood bank.

→ m blood banks can be associated with n patients.

### **Patient:**

For every User entity, there exist Attributes Name, Address, id, Phone Number and quantity of blood required, where id also serves as the Primary Key for the entity.

→ Every User can take blood from blood bank.

This entity is used to associate a particular Book with a certain User. It is characterized by the Attributes –blood type, id, name, age.

n Blood banks can be associated with One User's Info.

→ Id serves as Foreign Key between User Info and User.

→ Blood type serves as Foreign Key between User Info and Product Info.ii).

Product Info:

This entity is used to identify the type of blood needed. It comprises of the attributes code, blood type and quantity, code serves as the Primary Key for the entity.

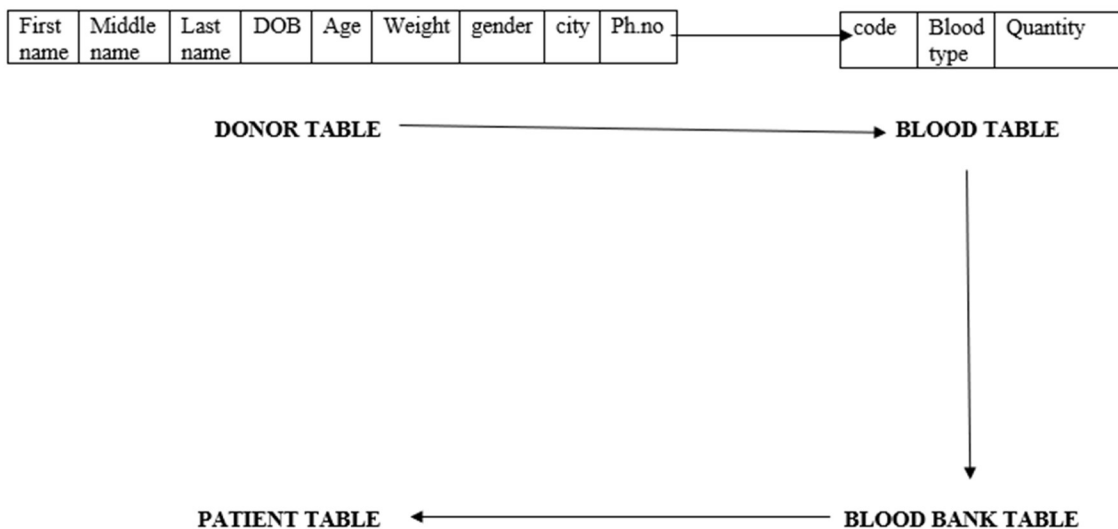
→ One Blood bag has only One Product Info.

Overall, the blood bank entity has the following defined Relationships:

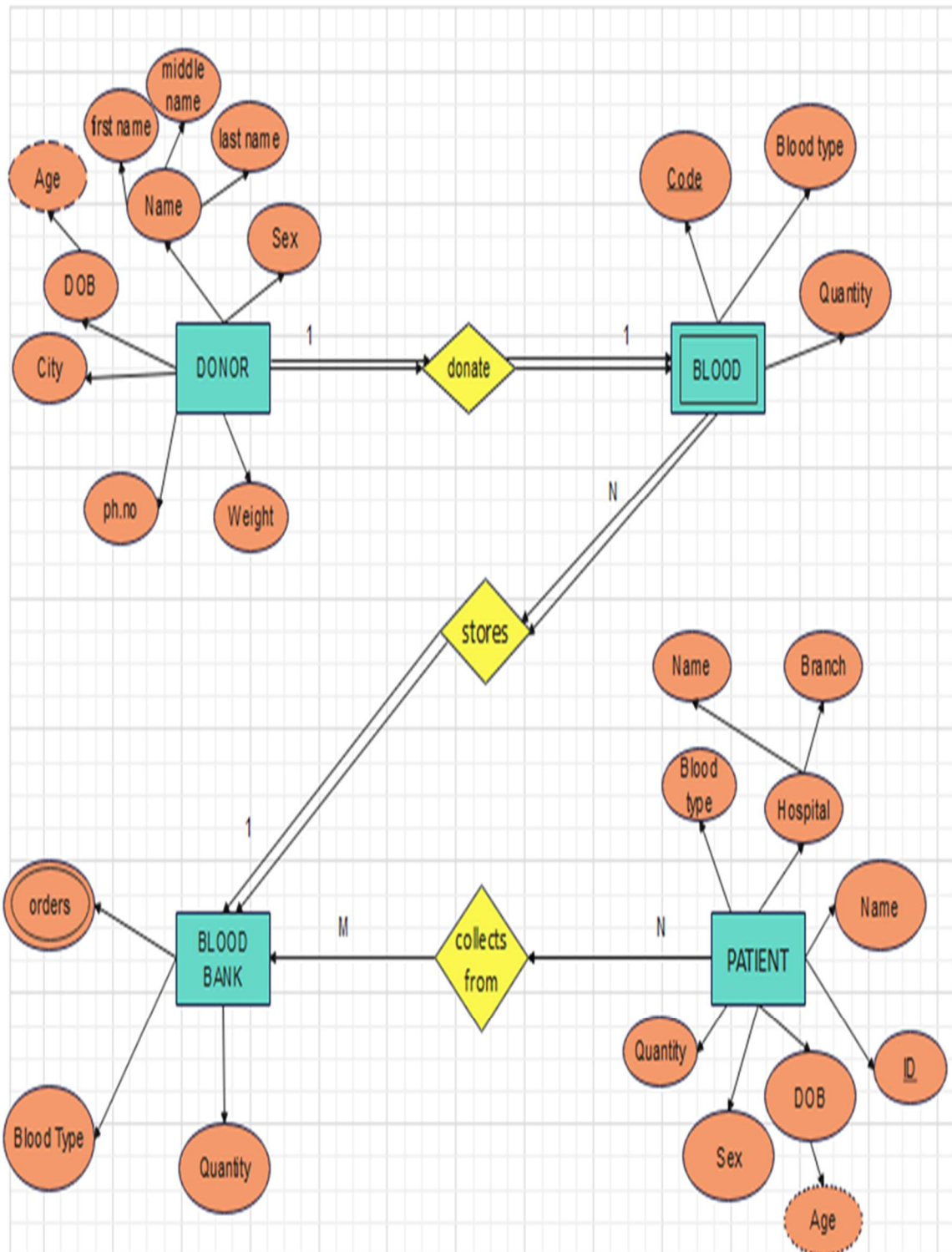
→ n Blood bags can be present in One blood bank.

→ Any number of patients can take blood from any number of blood banks.

## DATA BASE SCHEMA



## ER DIAGRAM



## **DATABASE USED**

### WHY WE USED SQL DATABASE ?

#### **Faster Query Processing**

Large amount of data is retrieved quickly and efficiently. Operations like Insertion, deletion, manipulation of data is also done in almost no time.

#### **No Coding Skills**

For data retrieval, large number of lines of code is not required. All basic keywords such as SELECT, INSERT INTO, UPDATE, etc are used and also the syntactical rules are not complex in SQL, which makes it a user-friendly language.

#### **Standardized Language**

Due to documentation and long establishment over years, it provides a uniform platform worldwide to all its users.

#### **Portable**

It can be used in programs in PCs, server, laptops independent of any platform (Operating System, etc). Also, it can be embedded with other applications as per need/requirement/use.

## **Interactive Language**

Easy to learn and understand, answers to complex queries can be received in seconds.

## **SQL CODE:**

### **CREATION OF DONOR TABLE**

```
CREATE TABLE DONOR ( FIRST_NAME VARCHAR(256) NOT NULL, MIDDLE_NAME VARCHAR(256) NOT NULL,  
LAST_NAME VARCHAR(256) NOT NULL,DOB DATE,AGE NUMBER,WEIGHT NUMBER,GENDER CHAR(1),CITY  
VARCHAR(50),MOBILE NUMBER);
```

```
INSERT INTO DONOR VALUES('TAGORE','PAVAN','KUMAR','17-DEC-2002','19YEARS',67,'M','KUKATPALLY','1234567891');
```

```
INSERT INTO DONOR VALUES('A','RAM','REDDY','11-JAN-2001','20 YEARS',71,'M','KOMPALLY','2345678912');
```

```
INSERT INTO DONOR VALUES('G','LOKESH','DON','08-APR-2002','19 YEARS',58,'M','KHARMANGHAT','3456789123');
```

```
INSERT INTO DONOR VALUES('A','ROHITHA','ATLA','26-APR-2003','18 YEARS',59,'F','MIYAPUR','5678912345');
```

```
INSERT INTO DONOR VALUES('G','MANIDEEP','REDDY','14-FEB-2002','19 YEARS',71,'M','AMEERPET','6789123456');
```

```
INSERT INTO DONOR VALUES('G','RITEESH','DON','11-NOV-2002','19 YEARS',74,'M','MAREDPALLY','7891234567');
```

### **CREATION OF BLOOD TABLE**

```
CREATE TABLE BLOOD (CODE NUMBER,BLOOD_TYPE VARCHAR2(4),QUANTITY NUMBER );
```

```
INSERT INTO BLOOD VALUES(1,'A+',350);
```

```
INSERT INTO BLOOD VALUES(2,'A-',245);
```



```

INSERT INTO BLOOD VALUES(3,'B+',370);

INSERT INTO BLOOD VALUES(4,'B-',310);

INSERT INTO BLOOD VALUES(5,'AB+',330);

INSERT INTO BLOOD VALUES(6,'AB-',215);

INSERT INTO BLOOD VALUES(7,'O+',250);

INSERT INTO BLOOD VALUES(8,'O-',285);

SELECT * FROM BLOOD;

```

## **CREATION OF BLOODBANK TABLE:**

```

CREATE TABLE BLOODBANK(ORDERS NUMBER,BLOOD_TYPE VARCHAR2(4),QUANTITY NUMBER);

INSERT INTO BLOODBANK VALUES(3,'A+',13);

INSERT INTO BLOODBANK VALUES(4,'A-',8);

INSERT INTO BLOODBANK VALUES(5,'B+',9);

INSERT INTO BLOODBANK VALUES(1,'B-',5);

INSERT INTO BLOODBANK VALUES(2,'AB-',15);

INSERT INTO BLOODBANK VALUES(6,'AB+',3);

INSERT INTO BLOODBANK VALUES(4,'O-',11);

INSERT INTO BLOODBANK VALUES(7,'O+',8);

SELECT * FROM BLOODBANK;

```

## **CREATION OF PATIENT TABLE**

```

CREATE TABLE PATIENT(ID NUMBER PRIMARY KEY,NAME VARCHAR2(40),GENDER CHAR(1),DOB DATE ,BLOOD_GROUP VARCHAR2(4),QUANTITY NUMBER,HOSPITAL_NAME VARCHAR2(40),PLACE VARCHAR(20));

INSERT INTO PATIENT VALUES(1204,'RAGHU','M','07-OCT-2002','O+',2,'KRISHNA HOSPITALS','DILSUKHNAGAR');

INSERT INTO PATIENT VALUES(1205,'SOUMYA','F','03-MAR-2001','A+',1,'RAINBOW HOSPITALS','CHANDA NAGAR');

INSERT INTO PATIENT VALUES(1206,'SHYAM','M','01-SEP-2002','A-',2,'KRISHNA HOSPITALS','KOMPALLY');

INSERT INTO PATIENT VALUES(1207,'MEGHANA','F','05-MAR-2002','AB-',2,'KIMS HOSPITAL','PATANCHERU');

INSERT INTO PATIENT VALUES(1208,'SHIVA','M','07-FEB-2001','AB+',1,'KK HEALTH CARE','BHEL');

INSERT INTO PATIENT VALUES(1209,'RANGA RAO','M','01-NOV-2002','AB-',1,'KIMS HOSPITALS','KONDAPUR');

INSERT INTO PATIENT VALUES(1210,'SHIVANI','F','21-JAN-2003','B+',1,'GANDHI HOSPITALS','MIYAPUR');

INSERT INTO PATIENT VALUES(1211,'KIRAN','M','06-DEC-2002','B-',4,'SWAPNA HOSPITAL','DILSUKHNAGAR');

INSERT INTO PATIENT VALUES(1212,'ADITYA','M','14-FEB-2001','AB-',1,'ANKURA HOSPITAL','KPHB');

INSERT INTO PATIENT VALUES(1213,'CHARANI','F','11-JAN-2003','O-',2,'MIDWAY CENTRAL HOSPITAL','LINGAMPALLY');

```

SELECT \* FROM PATIENT;

SNAPSHOTS:

Live SQL

Feedback Help nn8610@srmist.edu.in

SQL Worksheet

Clear Find Actions Save Run

```
1 CREATE TABLE DONOR ( FIRST_NAME VARCHAR(256) NOT NULL, MIDDLE_NAME VARCHAR(256) NOT NULL, LAST_NAME VARCHAR(256) NOT NULL,DOB DATE,AGE NUMBER,WEIGHT NUMBER,GENDER CHAR(1)
2 INSERT INTO DONOR VALUES('TAGORE','PAVAN','KUMAR','17-DEC-2002','19YEARS',67,'M','KUKATPALLY','1234567891');
3 INSERT INTO DONOR VALUES('A','RAH','REDDY','11-JAN-2001','20 YEARS',71,'M','KOMPALLY','2345678912');
4 INSERT INTO DONOR VALUES('G','RAMECH','RANI','08-APR-2003','10 YEARS',58,'M','PUDUMAMIGUAT','3456789123');
5
```

CODE	BLOOD_TYPE	QUANTITY
1	A+	350
2	A-	245
3	B+	370
4	B-	310
5	AB+	330
6	AB-	215
7	O+	250
8	O-	285

Download CSV  
8 rows selected.

Table created.

© 2022 Oracle - Live SQL 22.2.2, running Oracle Database 19c Enterprise Edition - 19.14.0.0.0 - Database Documentation - Ask Tom - Dev Gym

Built with using Oracle APEX - Privacy - Terms of Use

Live SQL

Feedback Help nn8610@srmist.edu.in

SQL Worksheet

Clear Find Actions Save Run

```
1 CREATE TABLE DONOR ( FIRST_NAME VARCHAR(256) NOT NULL, MIDDLE_NAME VARCHAR(256) NOT NULL, LAST_NAME VARCHAR(256) NOT NULL,DOB DATE,AGE NUMBER,WEIGHT NUMBER,GENDER CHAR(1)
2 INSERT INTO DONOR VALUES('TAGORE','PAVAN','KUMAR','17-DEC-2002','19YEARS',67,'M','KUKATPALLY','1234567891');
3 INSERT INTO DONOR VALUES('A','RAH','REDDY','11-JAN-2001','20 YEARS',71,'M','KOMPALLY','2345678912');
4 INSERT INTO DONOR VALUES('G','RAMECH','RANI','08-APR-2003','10 YEARS',58,'M','PUDUMAMIGUAT','3456789123');
5
```

ORDERS	BLOOD_TYPE	QUANTITY
3	A+	13
4	A-	8
5	B+	9
1	B-	5
2	AB-	15
6	AB+	3
4	O-	11
7	O+	8

Download CSV  
8 rows selected.

Table created.

© 2022 Oracle - Live SQL 22.2.2, running Oracle Database 19c Enterprise Edition - 19.14.0.0.0 - Database Documentation - Ask Tom - Dev Gym

Built with using Oracle APEX - Privacy - Terms of Use

SQL Worksheet

Clear

Find

Actions

Save

Run

```
1 CREATE TABLE DONOR ( FIRST_NAME VARCHAR(256) NOT NULL, MIDDLE_NAME VARCHAR(256) NOT NULL, LAST_NAME VARCHAR(256) NOT NULL, DOB DATE, AGE NUMBER, WEIGHT NUMBER, GENDER CHAR(1)
2 INSERT INTO DONOR VALUES('TAGORE','PAVAN','KUMAR','17-DEC-2002','19YEARS',67,'M','KUKATPALLY','1234567891');
3 INSERT INTO DONOR VALUES('A','RAH','REDDY','11-JAN-2001','20 YEARS',71,'M','KOMPALLY','2345678912');
4 TRUNCATE TABLE DONOR;
5
```

ID	NAME	GENDER	DOB	BLOOD_GROUP	QUANTITY	HOSPITAL_NAME	PLACE
1204	RAGHU	M	07-OCT-02	O+	2	KRISHNA HOSPITALS	DILSUKHINAGAR
1205	SOUKRYA	F	03-MAR-01	A+	1	RAINBOW HOSPITALS	CHANDA NAGAR
1206	SHYAM	M	01-SEP-02	A-	2	KRISHNA HOSPITALS	KOMPALLY
1207	MEGHANA	F	05-MAR-02	AB-	2	KIMS HOSPITAL	PATANCHERU
1208	SHIVA	M	07-FEB-01	AB+	1	KK HEALTH CARE	BHEL
1209	RANGA RAO	M	01-NOV-02	AB-	1	KIMS HOSPITALS	KONDAPUR
1210	SHIVANI	F	21-JAN-03	B+	1	GAANDHI HOSPITALS	MIYAPUR
1211	KIRAN	M	06-DEC-02	B-	4	SHARMA HOSPITAL	DILSUKHINAGAR
1212	ADITYA	M	14-FEB-01	AB-	1	ANKURA HOSPITAL	KPHB
1213	CHARANI	F	11-JAN-03	O-	2	MIDNAY CENTRAL HOSPITAL	LINGAMPALLY

Download CSV  
10 rows selected.

### **SAMPLE QUERIES:**

SELECT FIRST\_NAME,MIDDLE\_NAME,LAST\_NAME,DOB FROM DONOR WHERE DOB LIKE "%2002";

OUTPUT:

TAGORE|PAVAN|KUMAR|17-DEC-2002

G|MANIDEEP|REDDY|14-FEB-2002

G|RITEESH|DON|11-NOV-2002

### **2.OUTPUT NUMBER OF DONORS HAVING CERTAIN AGE**

**INPUT:**

SELECT AGE,COUNT(\*) FROM DONOR GROUP BY AGE;

**OUTPUT:**

18 YEARS|1

19 YEARS|3

19 Years|1

20 years|1

### **3.OUTPUT THE DIFFERENT BLOOD TYPES**

**INPUT:**

SELECT BLOOD\_TYPE FROM BLOOD GROUP BY BLOOD\_TYPE;

**OUTPUT:**

A+

A-

AB+

AB-

B+

B-

O+

O-

#### **4.OUTPUT THE PATIENTS NAME WITH THEIR ID**

##### **INPUT:**

SELECT ID,NAME FROM PATIENT GROUP BY ID;

##### **OUTPUT:**

1204|RAGHU

1205|SOWMYA

1206|SHYAM

1207|MEGHANA

1208|SHIVA

1209|RANGA RAO

1210|SHIVANI

1211|KIRAN

1212|ADITYA

1213|CHARANI

SNAPSHOTSHOTS:

Live SQL

Feedback

Help

nn8610@srmist.edu.in

SQL Worksheet

ClearFindActionsSaveRun

BLOOD_TYPE
O+
AB+
B+
A+
A-
B-
O-
AB-

Download CSV

8 rows selected.

© 2022 Oracle · Live SQL 22.2.2, running Oracle Database 19c Enterprise Edition - 19.14.0.0.0 · Database Documentation · Ask Tom · Dev Gym

Built with ♥ using Oracle APEX · Privacy · Terms of Use

Live SQL

Feedback

Help

nn8610@srmist.edu.in

SQL Worksheet

ClearFindActionsSaveRun

1 SELECT ID,NAME FROM PATIENT ;

2

3

4

ID	NAME
1204	RAGHU
1205	SOURMYA
1206	SHYAM
1207	MEGHANA
1208	SHIVA
1209	RANGA RAO
1210	SHIVANI
1211	KIRAN
1212	ADITYA
1213	CHARANVI

Download CSV

10 rows selected.

© 2022 Oracle · Live SQL 22.2.2, running Oracle Database 19c Enterprise Edition - 19.14.0.0.0 · Database Documentation · Ask Tom · Dev Gym

Built with ♥ using Oracle APEX · Privacy · Terms of Use

## **CONCLUSION:**

To summarize and conclude, in this course based project, we had created on Blood bank database system. Furthermore, we have given information about the Donor basic details and their blood type, quantity and that donated blood is stored in the blood banks so, that the patients can collect the required blood easily from the blood bank. Throughout the project, we have made use of concepts taught to us, including DDL, DML commands, Primary and Foreign Keys e.t.c. Furthermore, to practically show the usage of the database, a large number of sample queries for each and every entity based tables have been provided. We believe that a model like ours can be implemented seamlessly in order to make the experience of reading pleasurable and comfortable to the end user.

