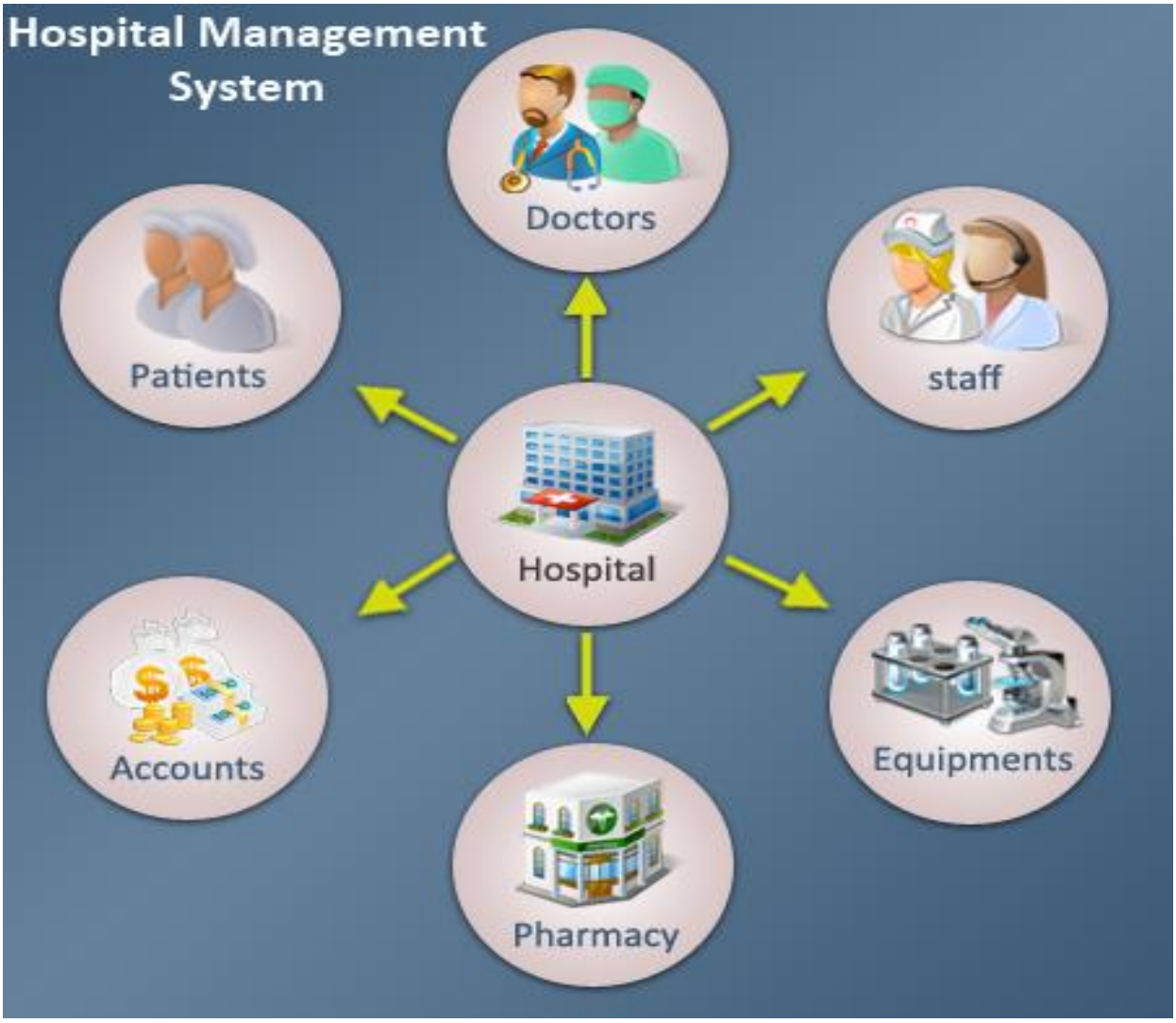
**DATA MANAGEMENT AND DATABASE DESIGN INFO-6210**

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# SEC – 05

# Final Project: Hospital Management System

**Problem Statement**: A database needs to be built to capture all the relevant records pertaining to hospital operation. Maintaining all records manually is extremely tedious and difficult to keep safe and intact.

**Proposed Solution** - A '**Hospital Management Database System'** keeps track of daily operations of a hospital. It addresses all the major functional areas of multi-specialty hospitals. This will help in keeping records permanent, easy to retrieve and confidential based on requirement. It additionally addresses two main aspects, which are cost and better management information system. Since the data of the whole process comes under one virtual system, which will help the management to take better decisions on time. The project deals with processing of every data and will reduce manual processing of every department involved in day-to-day process.

## Users of the System:

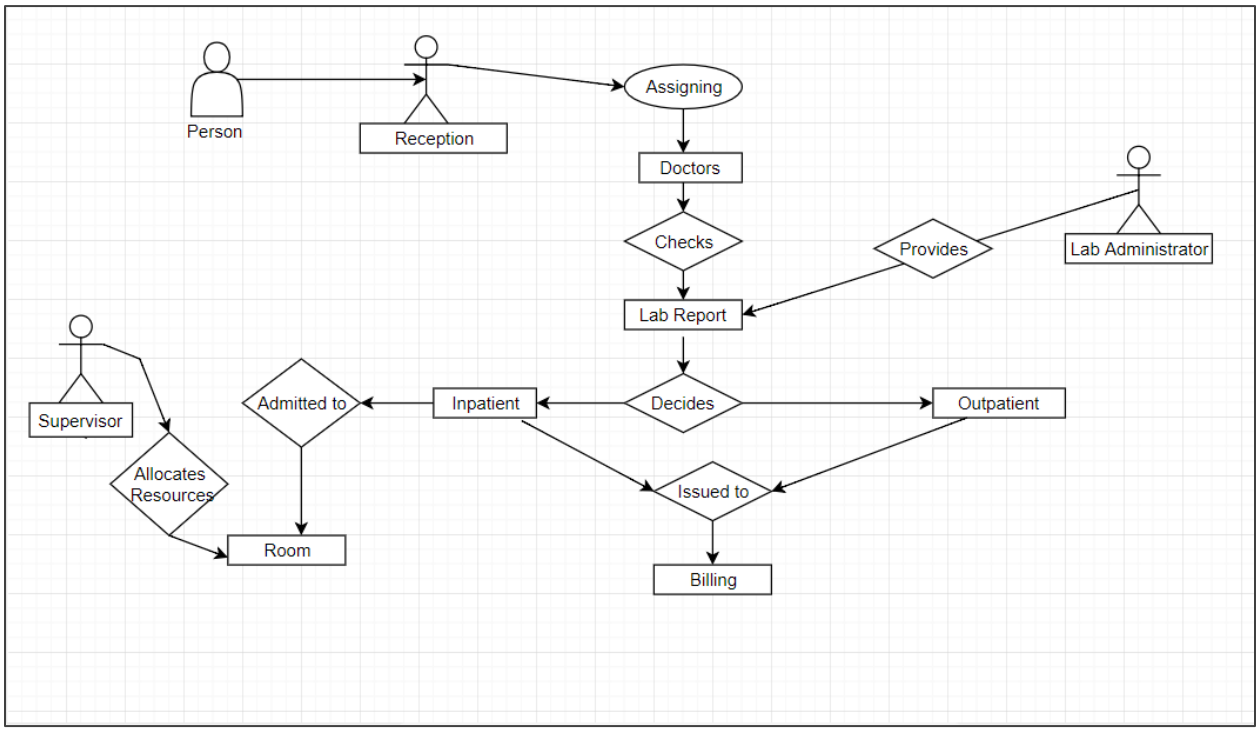
The users of the system are:

- **Reception** – This department looks into doctor and patient related details, such as assigning patients to doctors.
- **Billing Department** – This department looks after patient billing related details like doctor fee, medicine cost etc.
- **IT Administrator** – They are technical people who are there to solve any technical issues in database or application used in the hospital.
- **HR** – Hires and new employee and sets there weekly hour and wages.
- **Supervisor** – Allocates nurses and other resources for patients and prepares shift roasters for them.

The basic Entities in the System are:

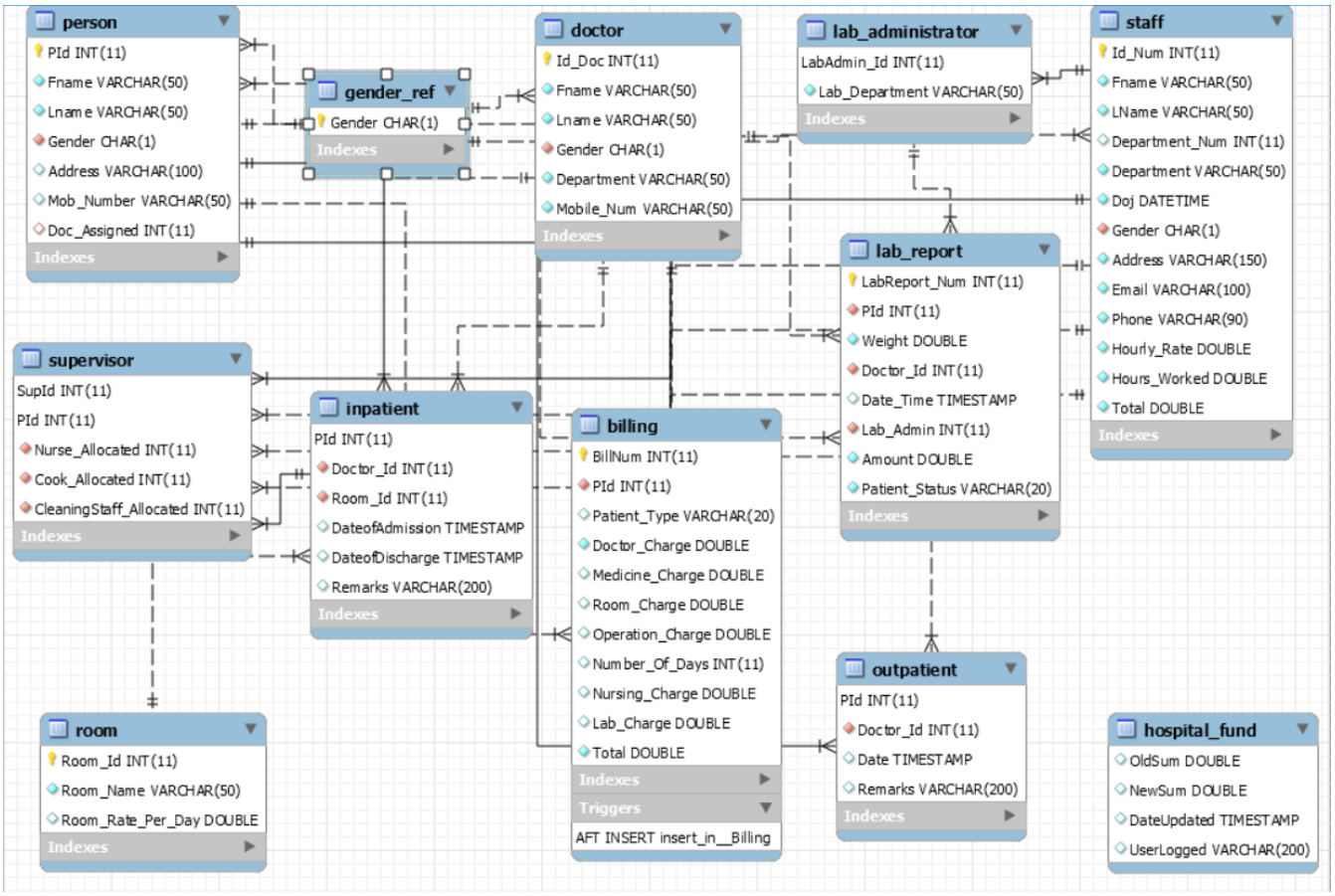
- Patient
- Doctors
- Billing
- Lab Administrator
- Supervisor
- Room

## Use case diagram:

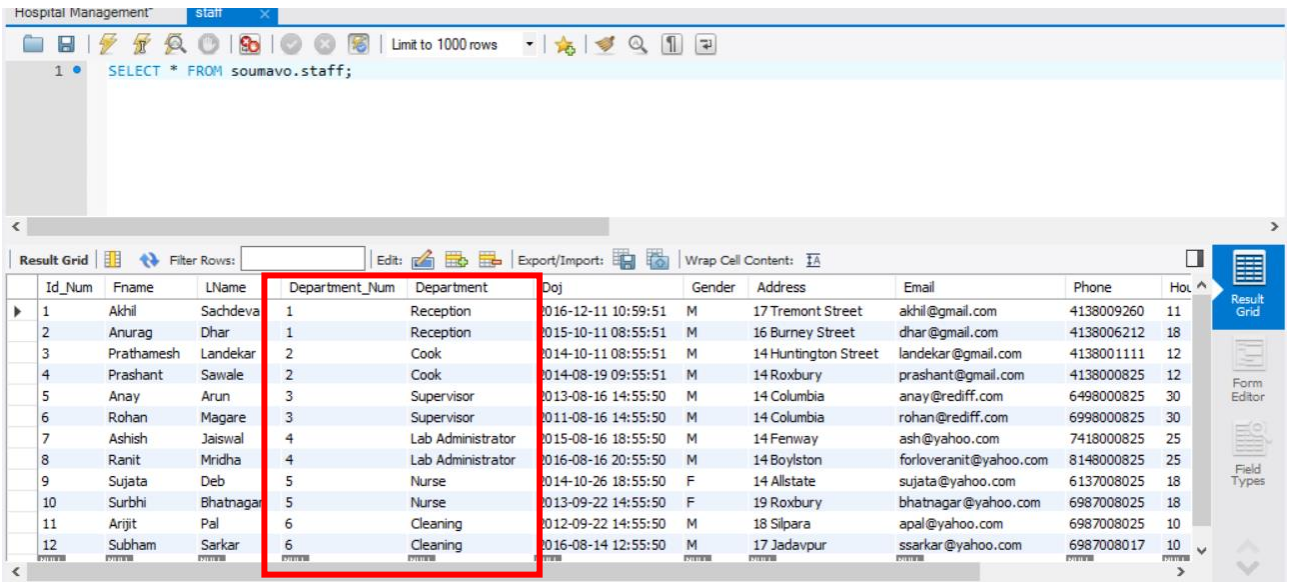



- **Reception** – A person approaches the reception for medical treatment. A person can choose his own doctor or receptionist assigns the patient to the corresponding doctor of a department based on symptoms or problem.
- **Doctor** – Doctor investigates the patient's problem. Checks lab reports and based on that recommends whether the patient needs to be admitted in hospital or normal medication will suffice.
- **Lab Administrator** – Lab administrator provides reports of the patient for doctor to analyze.
- **Supervisor** – Supervisor decides nurse and resource allocation for a patient in a particular room.

# Initial E-R Diagram




Post implementation of the tables with values we found that we can normalize the table further.



In the above table output we can see that Department_Num determines Department and both the columns are not part of the key. Currently the table in in **2NF**. We can achieve **3NF** by removing the transitive dependency (**Department_Num -> Department**) in the Staff table.

```
45 • Select * from Staff;
46
```

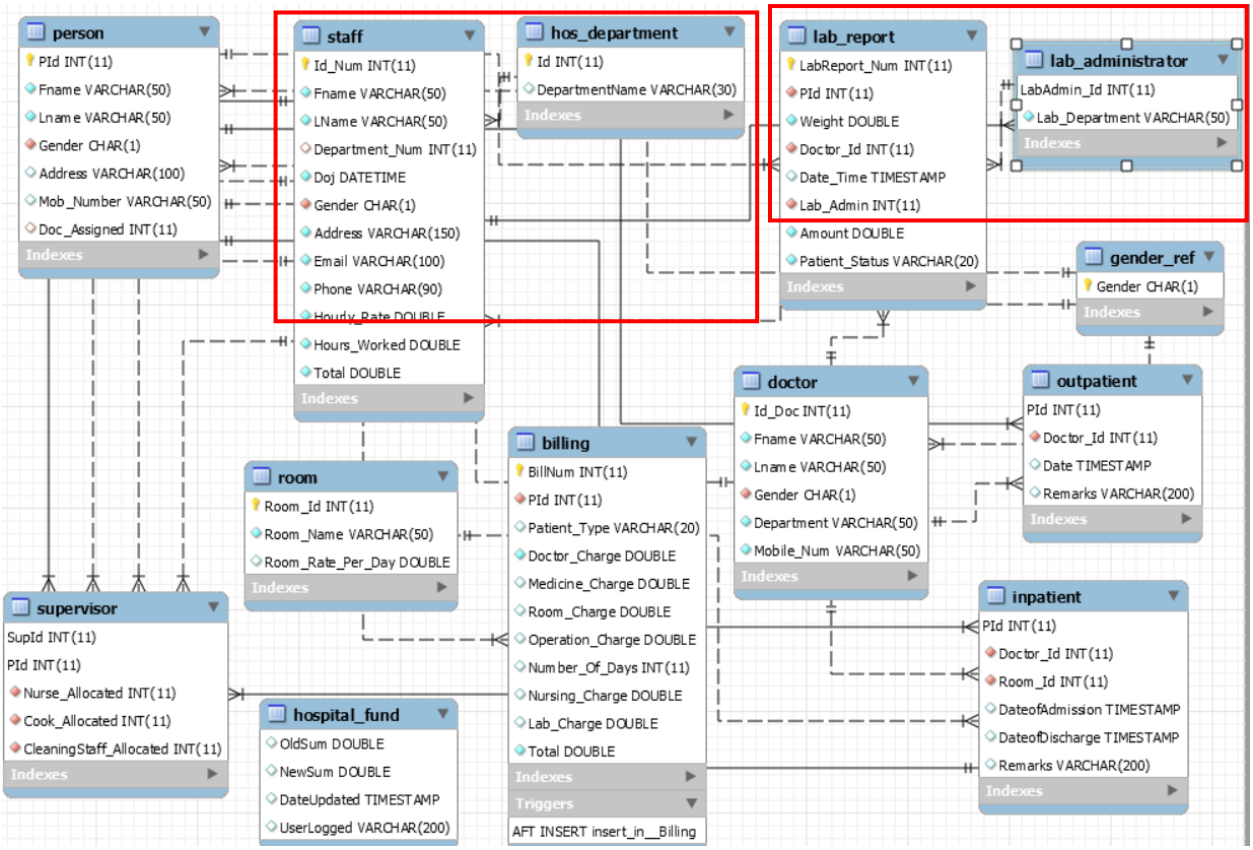
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

| Id_Num | Fname | LName | Department_Num | Doj | Gender | Address | Email | Phone | Hourly_Rate | Hours_W |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Akhil | Sachdeva | 1 | 2016-12-11 10:59:51 | M | 17 Tremont Street | akhil@gmail.com | 4138009260 | 11 | 20 |
| 2 | Anurag | Dhar | 1 | 2015-10-11 08:55:51 | M | 16 Burney Street | dhar@gmail.com | 4138006212 | 18 | 25 |
| 3 | Prathamesh | Landekar | 2 | 2014-10-11 08:55:51 | M | 14 Huntington Street | landekar@gmail.com | 4138001111 | 12 | 30 |
| 4 | Prashant | Sawale | 2 | 2014-08-19 09:55:51 | M | 14 Roxbury | prashant@gmail.com | 4138000825 | 12 | 36 |
| 5 | Anay | Arun | 3 | 2013-08-16 14:55:50 | M | 14 Columbia | anay@rediff.com | 6498000825 | 30 | 36 |
| 6 | Rohan | Magare | 3 | 2011-08-16 14:55:50 | M | 14 Columbia | rohan@rediff.com | 6998000825 | 30 | 40 |
| 7 | Ashish | Jaiswal | 4 | 2015-08-16 18:55:50 | M | 14 Fenway | ash@yahoo.com | 7418000825 | 25 | 35 |
| 8 | Ranit | Mridha | 4 | 2016-08-16 20:55:50 | M | 14 Boylston | forloveranit@yahoo.com | 8148000825 | 25 | 40 |
| 9 | Sujata | Deb | 5 | 2014-10-26 18:55:50 | F | 14 Allstate | sujata@yahoo.com | 6137008025 | 18 | 35 |
| 10 | Surbhi | Bhatnagar | 5 | 2013-09-22 14:55:50 | F | 19 Roxbury | bhatnagar@yahoo.com | 6987008025 | 18 | 25 |
| 11 | Arijit | Pal | 6 | 2012-09-22 14:55:50 | M | 18 Silpara | apal@yahoo.com | 6987008025 | 10 | 25 |

Result Grid | Filter Row

| Id | DepartmentName |
|---|---|
| 1 | Reception |
| 2 | Cook |
| 3 | Supervisor |
| 4 | Lab Administrator |
| 5 | Nurse |
| 6 | Cleaning |
| NULL | NULL |

## Final E-R Diagram




In the above diagram, I have used Entity Clustering concepts to cluster related entities together. For example, Lab Report is dependent on Lab Administrator, so both are clustered together.

**Create a table**: I have used constraints with on update cascade, on delete restrict which will prevent permanent deletion of records or tables. I have also used default value in case user forgets to insert data or leaves the field empty.

```
Create table if not exists Person
(
PId int not null auto_increment primary key,
Fname varchar(50) not null,
Lname varchar(50) not null default 'LNU',
Gender char(1) not null,
Address varchar(100),
Mob_Number varchar(50),
Doc_Assigned int,
foreign key (Gender) references Gender_Ref(Gender) on update cascade,
foreign key (Doc_Assigned) references Doctor(Id_Doc) on delete restrict
);
```

I have also used indexes on main tables like Staff to speed up queries.

```
Create index Staff_Index on Staff (Phone);
```

**Created a procedure**: This procedure helps in retrieving overall records of a particular patient using Mobile Number of a patient.

```
Delimiter |
Create procedure Details_Through_Number(In MobileNum varchar(30))
Begin
Select concat_ws(' ',p.fname,p.lname) as Full_Name,p.gender,p.address,concat_ws(' ',d.fname,d.lname) as Doctor_Name,
d.department,l.patient_status,concat_ws(' ',s.fname,s.lname) as Lab_Admin
from person p inner join doctor d
on p.Doc_Assigned=d.Id_doc
inner join lab_report l
on p.Doc_Assigned= l.Doctor_Id
inner join Lab_administrator ladmin
on l.lab_admin=ladmin.labadmin_id
inner join staff s on s.id_num=ladmin.labadmin_id
where s.Department_Num = '4'
and p.mob_number=MobileNum;
end |

delimiter ;
```

We can call the procedure using the phone number of a patient and it will retrieve all the related records pertaining to that particular patient.

```
73  Call Details_Through_Number('4184587789');
74
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| Full_Name | gender | address | Doctor_Name | department | patient_status | Lab_Admin |
|---|---|---|---|---|---|---|
| Sramana Ghose | F | 18 Ballygunge | Adam Jackson | Physician | Inpatient | Ranit Mridha |

**Created a View:**

I have created a view in which user can check the total money and total hours spent on each department of the hospital weekly.

```
Create view Weekly_Total_Hours_Cost_Check
As
Select hos_department.departmentname,staff.hourly_rate,sum(staff.hours_worked) as Total_Hours,
sum(staff.total) as Total_Cost
from staff inner join hos_department
on staff.department_num=hos_department.id
group by hos_department.departmentname with rollup
having sum(staff.hours_worked)>20;
```

**Result of the view**

```
381
382 •  Select * from Weekly_Total_Hours_Cost_Check;
383
```

Result Grid | Filter Rows: | Export: | Wrap Cell Co

| departmentname | hourly_rate | Total_Hours | Total_Cost |
|---|---|---|---|
| Lab Administrator | 25 | 75 | 1875 |
| Nurse | 18 | 60 | 1080 |
| Reception | 11 | 45 | 670 |
| Supervisor | 30 | 76 | 2280 |
| NULL | 30 | 362 | 7097 |

**<u>Created a Trigger:</u>**

I have created a after insert trigger which calculates total fund generated by the hospital. It basically adds the amount with the previous amount generated from the Billing table. It also records who has inserted the record in the Billing table and what time.

```
DELIMITER $$

   CREATE TRIGGER insert_in__Billing AFTER INSERT ON Billing
   FOR EACH ROW
   BEGIN
   Set @prevTotal = (Select NewSum from hospital_fund order by NewSum desc limit 1);
   If(@prevTotal is Not Null) Then
     Insert into Hospital_Fund(Oldsum,Newsum,DateUpdated,UserLogged) values(@prevTotal,@prevTotal+NEW.Total,now(),user());
     Else
     Insert into Hospital_Fund(Oldsum,Newsum,DateUpdated,UserLogged) values(0,NEW.Total,now(),user());
   END IF;
   END $$
DELIMITER ;
```

The trigger table looks like this, after every insert in Billing table, trigger fires and data gets stored in this table.

```
392 • Select * from hospital_fund;
393
```

Result Grid | Filter Rows: | Export:

| OldSum | NewSum | DateUpdated | UserLogged |
|---|---|---|---|
| 0 | 7300 | 2018-12-12 03:32:41 | root@localhost |
| 7300 | 11975 | 2018-12-12 03:33:19 | root@localhost |
| 11975 | 12375 | 2018-12-12 03:34:20 | root@localhost |
| 12375 | 13075 | 2018-12-12 03:34:42 | root@localhost |

## Created a function

I have also created a function to get the first name and the last name together of any table.

```
CREATE FUNCTION GETFULLNAME(fname CHAR(250),lname CHAR(250))
    RETURNS CHAR(250)
    deterministic
    BEGIN
        DECLARE fullname CHAR(250);
        SET fullname=CONCAT(fname,' ',lname);
        RETURN fullname;
    END //

DELIMITER ;
```

```
407 • Select getfullname(fname,lname) from Staff;
408
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

| getfullname(fname,lname) |
|---|
| Akhil Sachdeva |
| Anurag Dhar |
| Prathamesh Landekar |
| Prashant Sawale |
| Anay Arun |
| Rohan Magare |

Result Grid

Form Editor

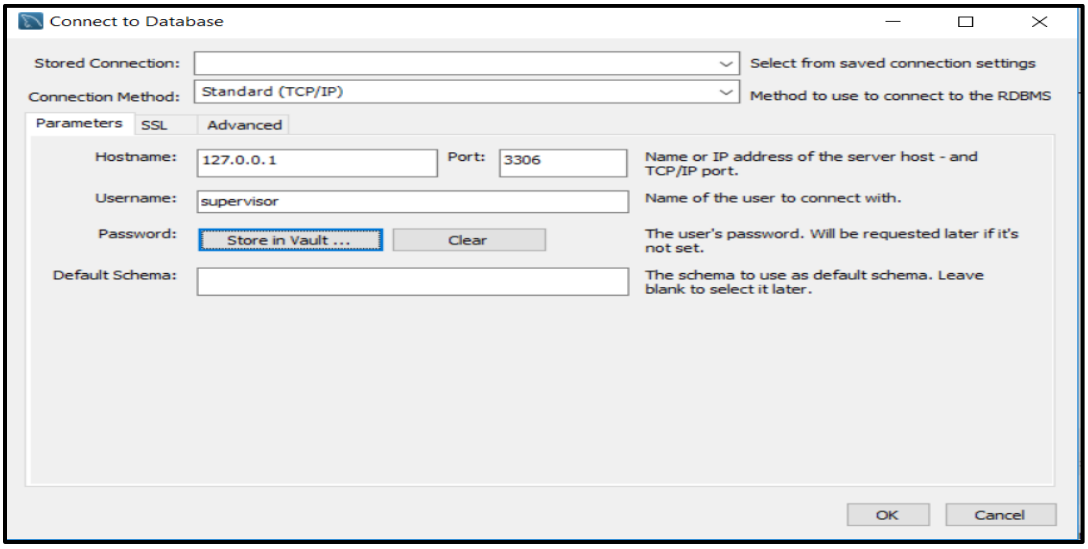
## Users of the system:

As declared above the tables of the database will be accessed by specific users. Every user will not have access to all the tables to insert/update/delete.

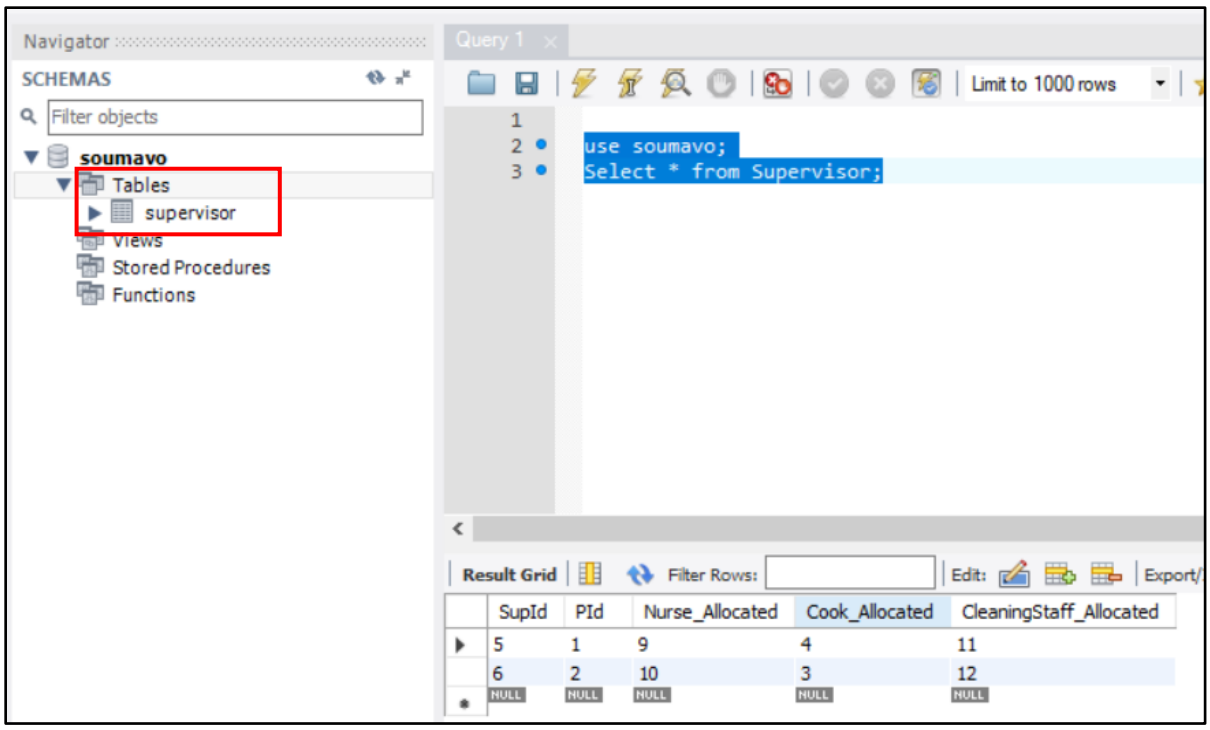
For example, in this case a supervisor will only have access to supervisor table where he/she can perform all activities.

```
Create user 'supervisor'@'localhost' identified by 'supervisor';
Revoke all privileges, Grant Option from 'supervisor'@'localhost';
Grant all on soumavo.supervisor to 'supervisor'@'localhost';
```

Supervisor tries to login giving username as ‘Supervisor’ and password as ‘supervisor’.




User successfully logs in. In the left hand side you can see that user has access to only to the Supervisor table of the database.




## Created Dump File which includes all triggers, views and stored procedures too.

-- MySQL dump 10.13  Distrib 8.0.12, for Win64 (x86_64)

--

-- Host: localhost    Database: soumavo

-- ------------------------------------------------------

-- Server version	8.0.12

/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;

/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;

/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;

SET NAMES utf8 ;

```
/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
/*!40103 SET TIME_ZONE='+00:00' */;
/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;

--
-- Table structure for table `billing`
--

DROP TABLE IF EXISTS `billing`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `billing` (
  `BillNum` int(11) NOT NULL AUTO_INCREMENT,
  `PId` int(11) NOT NULL,
  `Patient_Type` varchar(20) DEFAULT NULL,
  `Doctor_Charge` double NOT NULL,
  `Medicine_Charge` double DEFAULT NULL,
  `Room_Charge` double DEFAULT NULL,
  `Operation_Charge` double DEFAULT NULL,
  `Number_Of_Days` int(11) DEFAULT NULL,
  `Nursing_Charge` double DEFAULT NULL,
  `Lab_Charge` double DEFAULT NULL,
  `Total` double GENERATED ALWAYS AS ((((((`Doctor_Charge` + `Medicine_Charge`) + (`Room_Charge` *
`Number_Of_Days`)) + `Operation_Charge`) + `Nursing_Charge`) + `Lab_Charge`)) VIRTUAL NOT NULL,
  PRIMARY KEY (`BillNum`),
  KEY `PId` (`PId`),
```

```
  KEY `Bill_Index` (`BillNum`),
  CONSTRAINT `billing_ibfk_1` FOREIGN KEY (`PId`) REFERENCES `person` (`pid`)
) ENGINE=InnoDB AUTO_INCREMENT=7 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `billing`
--

LOCK TABLES `billing` WRITE;
/*!40000 ALTER TABLE `billing` DISABLE KEYS */;
INSERT INTO `billing` (`BillNum`, `PId`, `Patient_Type`, `Doctor_Charge`, `Medicine_Charge`, `Room_Charge`, `Operation_Charge`, `Number_Of_Days`, `Nursing_Charge`, `Lab_Charge`) VALUES (1,1,'Inpatient',2000,200,40,620,4,120,124),(2,2,'Inpatient',2000,200,40,620,4,120,124),(3,2,'Inpatient',400,1400,400,1800,8,300,200),(4,1,'Inpatient',200,1325,100,1700,12,150,100),(5,3,'Oupatient',200,100,0,0,0,0,100),(6,4,'Oupatient',300,250,0,0,0,0,150);
/*!40000 ALTER TABLE `billing` ENABLE KEYS */;
UNLOCK TABLES;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8mb4 */ ;
/*!50003 SET character_set_results = utf8mb4 */ ;
/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION' */ ;
DELIMITER ;;
/*!50003 CREATE*/ /*!50017 DEFINER=`root`@`localhost`*/ /*!50003 TRIGGER `insert_in__Billing` AFTER INSERT ON `billing` FOR EACH ROW BEGIN
   Set @prevTotal = (Select NewSum from hospital_fund order by NewSum desc limit 1);
```

```
  If(@prevTotal is Not Null) Then
   Insert into Hospital_Fund(Oldsum,Newsum,DateUpdated,UserLogged)
values(@prevTotal,@prevTotal+NEW.Total,now(),user());
    Else
   Insert into Hospital_Fund(Oldsum,Newsum,DateUpdated,UserLogged)
values(0,NEW.Total,now(),user());
  END IF;
  END */;;
DELIMITER ;
/*!50003 SET sql_mode          = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;

--
-- Table structure for table `doctor`
--

DROP TABLE IF EXISTS `doctor`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `doctor` (
  `Id_Doc` int(11) NOT NULL AUTO_INCREMENT,
  `Fname` varchar(50) NOT NULL,
  `Lname` varchar(50) NOT NULL,
  `Gender` char(1) NOT NULL,
  `Department` varchar(50) NOT NULL,
  `Mobile_Num` varchar(50) NOT NULL,
  PRIMARY KEY (`Id_Doc`),
```

```
  KEY `Gender` (`Gender`),
  CONSTRAINT `doctor_ibfk_1` FOREIGN KEY (`Gender`) REFERENCES `gender_ref` (`gender`) ON UPDATE CASCADE
) ENGINE=InnoDB AUTO_INCREMENT=8 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `doctor`
--

LOCK TABLES `doctor` WRITE;
/*!40000 ALTER TABLE `doctor` DISABLE KEYS */;
INSERT INTO `doctor` VALUES
(1,'Hary','Kane','M','Orthopadics','9038856379'),(2,'Akashmika','Dhar','F','Cardiologist','9433218912'),(3,'Sourav','Patel','M','Urologist','879621256'),(4,'Virat','Kohli','M','Dentist','879645879'),(5,'Praveen','Bhardwaj','M','Dermatologist','987456126'),(6,'Adam','Jackson','M','Physician','987456123'),(7,'Eden','Hazard','M','Physician','4138559865');
/*!40000 ALTER TABLE `doctor` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `gender_ref`
--

DROP TABLE IF EXISTS `gender_ref`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `gender_ref` (
  `Gender` char(1) NOT NULL,
  PRIMARY KEY (`Gender`)
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `gender_ref`
--

LOCK TABLES `gender_ref` WRITE;
/*!40000 ALTER TABLE `gender_ref` DISABLE KEYS */;
INSERT INTO `gender_ref` VALUES ('F'),('M');
/*!40000 ALTER TABLE `gender_ref` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `hos_department`
--

DROP TABLE IF EXISTS `hos_department`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `hos_department` (
  `Id` int(11) NOT NULL AUTO_INCREMENT,
  `DepartmentName` varchar(30) DEFAULT NULL,
  PRIMARY KEY (`Id`)
) ENGINE=InnoDB AUTO_INCREMENT=7 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `hos_department`
```

```
--


LOCK TABLES `hos_department` WRITE;

/*!40000 ALTER TABLE `hos_department` DISABLE KEYS */;

INSERT INTO `hos_department` VALUES (1,'Reception'),(2,'Cook'),(3,'Supervisor'),(4,'Lab
Administrator'),(5,'Nurse'),(6,'Cleaning');

/*!40000 ALTER TABLE `hos_department` ENABLE KEYS */;

UNLOCK TABLES;


--

-- Table structure for table `hospital_fund`

--


DROP TABLE IF EXISTS `hospital_fund`;

/*!40101 SET @saved_cs_client     = @@character_set_client */;

 SET character_set_client = utf8mb4 ;

CREATE TABLE `hospital_fund` (

  `OldSum` double DEFAULT NULL,

  `NewSum` double DEFAULT NULL,

  `DateUpdated` timestamp NULL DEFAULT NULL,

  `UserLogged` varchar(200) DEFAULT NULL

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;


--

-- Dumping data for table `hospital_fund`

--


LOCK TABLES `hospital_fund` WRITE;
```

```
/*!40000 ALTER TABLE `hospital_fund` DISABLE KEYS */;

INSERT INTO `hospital_fund` VALUES (0,7300,'2018-12-12
08:32:41','root@localhost'),(7300,11975,'2018-12-12 08:33:19','root@localhost'),(11975,12375,'2018-
12-12 08:34:20','root@localhost'),(12375,13075,'2018-12-12 08:34:42','root@localhost');

/*!40000 ALTER TABLE `hospital_fund` ENABLE KEYS */;

UNLOCK TABLES;


--

-- Table structure for table `inpatient`

--


DROP TABLE IF EXISTS `inpatient`;

/*!40101 SET @saved_cs_client     = @@character_set_client */;

 SET character_set_client = utf8mb4 ;

CREATE TABLE `inpatient` (

  `PId` int(11) NOT NULL,

  `Doctor_Id` int(11) NOT NULL,

  `Room_Id` int(11) NOT NULL,

  `DateofAdmission` timestamp NULL DEFAULT NULL,

  `DateofDischarge` timestamp NULL DEFAULT NULL,

  `Remarks` varchar(200) DEFAULT NULL,

  PRIMARY KEY (`PId`),

  KEY `Doctor_Id` (`Doctor_Id`),

  KEY `Room_Id` (`Room_Id`),

  CONSTRAINT `inpatient_ibfk_1` FOREIGN KEY (`PId`) REFERENCES `person` (`pid`),

  CONSTRAINT `inpatient_ibfk_2` FOREIGN KEY (`Doctor_Id`) REFERENCES `doctor` (`id_doc`),

  CONSTRAINT `inpatient_ibfk_3` FOREIGN KEY (`Room_Id`) REFERENCES `room` (`room_id`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;
```

```
--

-- Dumping data for table `inpatient`

--


LOCK TABLES `inpatient` WRITE;

/*!40000 ALTER TABLE `inpatient` DISABLE KEYS */;

INSERT INTO `inpatient` VALUES (1,1,1,'2017-12-04 07:45:41','2017-12-02 06:54:41','Needs to be Operated due to gland enlargement'),(2,6,2,'2018-01-04 07:45:41','2018-01-28 08:54:41','Needs surgery due to tissue tear');

/*!40000 ALTER TABLE `inpatient` ENABLE KEYS */;

UNLOCK TABLES;


--

-- Table structure for table `lab_administrator`

--


DROP TABLE IF EXISTS `lab_administrator`;

/*!40101 SET @saved_cs_client     = @@character_set_client */;

 SET character_set_client = utf8mb4 ;

CREATE TABLE `lab_administrator` (

  `LabAdmin_Id` int(11) NOT NULL,

  `Lab_Department` varchar(50) NOT NULL,

  PRIMARY KEY (`LabAdmin_Id`),

  CONSTRAINT `lab_administrator_ibfk_1` FOREIGN KEY (`LabAdmin_Id`) REFERENCES `staff` (`Id_Num`)

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;


--
```

```
-- Dumping data for table `lab_administrator`
--

LOCK TABLES `lab_administrator` WRITE;
/*!40000 ALTER TABLE `lab_administrator` DISABLE KEYS */;
INSERT INTO `lab_administrator` VALUES (7,'Blood Test'),(8,'Haematology');
/*!40000 ALTER TABLE `lab_administrator` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `lab_report`
--

DROP TABLE IF EXISTS `lab_report`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `lab_report` (
  `LabReport_Num` int(11) NOT NULL AUTO_INCREMENT,
  `PId` int(11) NOT NULL,
  `Weight` double NOT NULL,
  `Doctor_Id` int(11) NOT NULL,
  `Date_Time` timestamp NULL DEFAULT CURRENT_TIMESTAMP,
  `Lab_Admin` int(11) NOT NULL,
  `Amount` double NOT NULL,
  `Patient_Status` varchar(20) NOT NULL,
  PRIMARY KEY (`LabReport_Num`),
  KEY `Doctor_Id` (`Doctor_Id`),
  KEY `PId` (`PId`),
  KEY `Lab_Admin` (`Lab_Admin`),
```

```
  CONSTRAINT `lab_report_ibfk_1` FOREIGN KEY (`Doctor_Id`) REFERENCES `doctor` (`id_doc`),
  CONSTRAINT `lab_report_ibfk_2` FOREIGN KEY (`PId`) REFERENCES `person` (`pid`),
  CONSTRAINT `lab_report_ibfk_3` FOREIGN KEY (`Lab_Admin`) REFERENCES `lab_administrator` (`labadmin_id`)
) ENGINE=InnoDB AUTO_INCREMENT=1005 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `lab_report`
--

LOCK TABLES `lab_report` WRITE;
/*!40000 ALTER TABLE `lab_report` DISABLE KEYS */;
INSERT INTO `lab_report` VALUES (1001,1,45,1,'2018-12-12 06:54:41',7,400,'Inpatient'),(1002,2,65,6,'2018-12-12 06:55:43',8,200,'Inpatient'),(1003,3,48,5,'2018-12-12 06:56:38',8,100,'Outpatient'),(1004,4,52,2,'2018-12-12 06:58:36',8,150,'Outpatient');
/*!40000 ALTER TABLE `lab_report` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `outpatient`
--

DROP TABLE IF EXISTS `outpatient`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `outpatient` (
  `PId` int(11) NOT NULL,
  `Doctor_Id` int(11) NOT NULL,
```

```
  `Date` timestamp NULL DEFAULT CURRENT_TIMESTAMP,
  `Remarks` varchar(200) DEFAULT NULL,
  PRIMARY KEY (`PId`),
  KEY `Doctor_Id` (`Doctor_Id`),
  CONSTRAINT `outpatient_ibfk_1` FOREIGN KEY (`PId`) REFERENCES `person` (`pid`),
  CONSTRAINT `outpatient_ibfk_2` FOREIGN KEY (`Doctor_Id`) REFERENCES `doctor` (`id_doc`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `outpatient`
--

LOCK TABLES `outpatient` WRITE;
/*!40000 ALTER TABLE `outpatient` DISABLE KEYS */;
INSERT INTO `outpatient` VALUES (3,5,'2018-12-12 07:20:42','Needs paracetamol and adequate water'),(4,2,'2018-12-12 07:20:42','Take Allegra for 7 days');
/*!40000 ALTER TABLE `outpatient` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `person`
--

DROP TABLE IF EXISTS `person`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `person` (
  `PId` int(11) NOT NULL AUTO_INCREMENT,
```

```
  `Fname` varchar(50) NOT NULL,
  `Lname` varchar(50) NOT NULL DEFAULT 'LNU',
  `Gender` char(1) NOT NULL,
  `Address` varchar(100) DEFAULT NULL,
  `Mob_Number` varchar(50) DEFAULT NULL,
  `Doc_Assigned` int(11) DEFAULT NULL,
  PRIMARY KEY (`PId`),
  KEY `Gender` (`Gender`),
  KEY `Doc_Assigned` (`Doc_Assigned`),
  KEY `Person_Index` (`PId`),
  CONSTRAINT `person_ibfk_1` FOREIGN KEY (`Gender`) REFERENCES `gender_ref` (`gender`) ON UPDATE CASCADE,
  CONSTRAINT `person_ibfk_2` FOREIGN KEY (`Doc_Assigned`) REFERENCES `doctor` (`id_doc`)
) ENGINE=InnoDB AUTO_INCREMENT=5 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `person`
--

LOCK TABLES `person` WRITE;
/*!40000 ALTER TABLE `person` DISABLE KEYS */;
INSERT INTO `person` VALUES (1,'Soumavo','Guria','M','214 A RRJ Road','4138009260',1),(2,'Ryad','Maharez','M','Manchester Road','4138965545',4),(3,'Nishi','Desai','F','18 Kolkata','41875462345',6),(4,'Sramana','Ghose','F','18 Ballygunge','4184587789',6);
/*!40000 ALTER TABLE `person` ENABLE KEYS */;
UNLOCK TABLES;

--
```

```
-- Table structure for table `room`
--

DROP TABLE IF EXISTS `room`;
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `room` (
  `Room_Id` int(11) NOT NULL AUTO_INCREMENT,
  `Room_Name` varchar(50) NOT NULL,
  `Room_Rate_Per_Day` double DEFAULT NULL,
  PRIMARY KEY (`Room_Id`)
) ENGINE=InnoDB AUTO_INCREMENT=4 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `room`
--

LOCK TABLES `room` WRITE;
/*!40000 ALTER TABLE `room` DISABLE KEYS */;
INSERT INTO `room` VALUES (1,'AC Deluxe',400),(2,'Standard',300),(3,'Economy',150);
/*!40000 ALTER TABLE `room` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Table structure for table `staff`
--

DROP TABLE IF EXISTS `staff`;
```

```
/*!40101 SET @saved_cs_client     = @@character_set_client */;
 SET character_set_client = utf8mb4 ;
CREATE TABLE `staff` (
  `Id_Num` int(11) NOT NULL AUTO_INCREMENT,
  `Fname` varchar(50) NOT NULL,
  `LName` varchar(50) NOT NULL,
  `Department_Num` int(11) DEFAULT NULL,
  `Doj` datetime NOT NULL,
  `Gender` char(1) NOT NULL,
  `Address` varchar(150) NOT NULL,
  `Email` varchar(100) NOT NULL,
  `Phone` varchar(90) NOT NULL,
  `Hourly_Rate` double NOT NULL,
  `Hours_Worked` double NOT NULL,
  `Total` double GENERATED ALWAYS AS ((`Hourly_Rate` * `Hours_Worked`)) VIRTUAL NOT NULL,
  PRIMARY KEY (`Id_Num`),
  KEY `Gender` (`Gender`),
  KEY `Department_Num` (`Department_Num`),
  KEY `Staff_Index` (`Phone`),
  CONSTRAINT `staff_ibfk_1` FOREIGN KEY (`Gender`) REFERENCES `gender_ref` (`gender`) ON UPDATE
CASCADE,
  CONSTRAINT `staff_ibfk_2` FOREIGN KEY (`Department_Num`) REFERENCES `hos_department` (`id`)
) ENGINE=InnoDB AUTO_INCREMENT=13 DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;


--
-- Dumping data for table `staff`
--
```

```
LOCK TABLES `staff` WRITE;

/*!40000 ALTER TABLE `staff` DISABLE KEYS */;

INSERT INTO `staff` (`Id_Num`, `Fname`, `LName`, `Department_Num`, `Doj`, `Gender`, `Address`,
`Email`, `Phone`, `Hourly_Rate`, `Hours_Worked`) VALUES (1,'Akhil','Sachdeva',1,'2016-12-11
10:59:51','M','17 Tremont Street','akhil@gmail.com','4138009260',11,20),(2,'Anurag','Dhar',1,'2015-10-
11 08:55:51','M','16 Burney
Street','dhar@gmail.com','4138006212',18,25),(3,'Prathamesh','Landekar',2,'2014-10-11
08:55:51','M','14 Huntington
Street','landekar@gmail.com','4138001111',12,30),(4,'Prashant','Sawale',2,'2014-08-19 09:55:51','M','14
Roxbury','prashant@gmail.com','4138000825',12,36),(5,'Anay','Arun',3,'2013-08-16 14:55:50','M','14
Columbia','anay@rediff.com','6498000825',30,36),(6,'Rohan','Magare',3,'2011-08-16 14:55:50','M','14
Columbia','rohan@rediff.com','6998000825',30,40),(7,'Ashish','Jaiswal',4,'2015-08-16 18:55:50','M','14
Fenway','ash@yahoo.com','7418000825',25,35),(8,'Ranit','Mridha',4,'2016-08-16 20:55:50','M','14
Boylston','forloveranit@yahoo.com','8148000825',25,40),(9,'Sujata','Deb',5,'2014-10-26 18:55:50','F','14
Allstate','sujata@yahoo.com','6137008025',18,35),(10,'Surbhi','Bhatnagar',5,'2013-09-22
14:55:50','F','19 Roxbury','bhatnagar@yahoo.com','6987008025',18,25),(11,'Arijit','Pal',6,'2012-09-22
14:55:50','M','18 Silpara','apal@yahoo.com','6987008025',10,25),(12,'Subham','Sarkar',6,'2016-08-14
12:55:50','M','17 Jadavpur','ssarkar@yahoo.com','6987008017',10,15);

/*!40000 ALTER TABLE `staff` ENABLE KEYS */;

UNLOCK TABLES;


--

-- Table structure for table `supervisor`

--


DROP TABLE IF EXISTS `supervisor`;

/*!40101 SET @saved_cs_client     = @@character_set_client */;

 SET character_set_client = utf8mb4 ;

CREATE TABLE `supervisor` (

  `SupId` int(11) NOT NULL,

  `PId` int(11) NOT NULL,

  `Nurse_Allocated` int(11) NOT NULL,

  `Cook_Allocated` int(11) NOT NULL,

  `CleaningStaff_Allocated` int(11) NOT NULL,
```

```
  PRIMARY KEY (`SupId`,`PId`),
  KEY `PId` (`PId`),
  KEY `Nurse_Allocated` (`Nurse_Allocated`),
  KEY `Cook_Allocated` (`Cook_Allocated`),
  KEY `CleaningStaff_Allocated` (`CleaningStaff_Allocated`),
  CONSTRAINT `supervisor_ibfk_1` FOREIGN KEY (`SupId`) REFERENCES `staff` (`Id_Num`),
  CONSTRAINT `supervisor_ibfk_2` FOREIGN KEY (`PId`) REFERENCES `inpatient` (`pid`),
  CONSTRAINT `supervisor_ibfk_3` FOREIGN KEY (`Nurse_Allocated`) REFERENCES `staff` (`Id_Num`),
  CONSTRAINT `supervisor_ibfk_4` FOREIGN KEY (`Cook_Allocated`) REFERENCES `staff` (`Id_Num`),
  CONSTRAINT `supervisor_ibfk_5` FOREIGN KEY (`CleaningStaff_Allocated`) REFERENCES `staff`
(`Id_Num`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

--
-- Dumping data for table `supervisor`
--

LOCK TABLES `supervisor` WRITE;
/*!40000 ALTER TABLE `supervisor` DISABLE KEYS */;
INSERT INTO `supervisor` VALUES (5,1,9,4,11),(6,2,10,3,12);
/*!40000 ALTER TABLE `supervisor` ENABLE KEYS */;
UNLOCK TABLES;

--
-- Temporary view structure for view `weekly_total_hours_cost_check`
--

DROP TABLE IF EXISTS `weekly_total_hours_cost_check`;
```

```
/*!50001 DROP VIEW IF EXISTS `weekly_total_hours_cost_check`*/;
SET @saved_cs_client     = @@character_set_client;
SET character_set_client = utf8mb4;
/*!50001 CREATE VIEW `weekly_total_hours_cost_check` AS SELECT
 1 AS `departmentname`,
 1 AS `hourly_rate`,
 1 AS `Total_Hours`,
 1 AS `Total_Cost`*/;
SET character_set_client = @saved_cs_client;

--
-- Dumping events for database 'soumavo'
--

--
-- Dumping routines for database 'soumavo'
--
/*!50003 DROP PROCEDURE IF EXISTS `Details_Through_Number` */;
/*!50003 SET @saved_cs_client      = @@character_set_client */ ;
/*!50003 SET @saved_cs_results     = @@character_set_results */ ;
/*!50003 SET @saved_col_connection = @@collation_connection */ ;
/*!50003 SET character_set_client  = utf8mb4 */ ;
/*!50003 SET character_set_results = utf8mb4 */ ;
/*!50003 SET collation_connection  = utf8mb4_0900_ai_ci */ ;
/*!50003 SET @saved_sql_mode       = @@sql_mode */ ;
/*!50003 SET sql_mode              = 'STRICT_TRANS_TABLES,NO_ENGINE_SUBSTITUTION' */ ;
DELIMITER ;;
CREATE DEFINER=`root`@`localhost` PROCEDURE `Details_Through_Number`(In MobileNum
varchar(30))
```

```
Begin
Select concat_ws(' ',p.fname,p.lname) as Full_Name,p.gender,p.address,concat_ws(' ',d.fname,d.lname)
as Doctor_Name,
d.department,l.patient_status,concat_ws(' ',s.fname,s.lname) as Lab_Admin
from person p inner join doctor d
on p.Doc_Assigned=d.Id_doc
inner join lab_report l
on p.Doc_Assigned= l.Doctor_Id
inner join Lab_administrator ladmin
on l.lab_admin=ladmin.labadmin_id
inner join staff s on s.id_num=ladmin.labadmin_id
where s.Department_Num = '4'
and p.mob_number=MobileNum;
end ;;
DELIMITER ;
/*!50003 SET sql_mode              = @saved_sql_mode */ ;
/*!50003 SET character_set_client  = @saved_cs_client */ ;
/*!50003 SET character_set_results = @saved_cs_results */ ;
/*!50003 SET collation_connection  = @saved_col_connection */ ;

--
-- Final view structure for view `weekly_total_hours_cost_check`
--

/*!50001 DROP VIEW IF EXISTS `weekly_total_hours_cost_check`*/;
/*!50001 SET @saved_cs_client         = @@character_set_client */;
/*!50001 SET @saved_cs_results        = @@character_set_results */;
/*!50001 SET @saved_col_connection    = @@collation_connection */;
/*!50001 SET character_set_client     = utf8mb4 */;
```

```
/*!50001 SET character_set_results     = utf8mb4 */;

/*!50001 SET collation_connection      = utf8mb4_0900_ai_ci */;

/*!50001 CREATE ALGORITHM=UNDEFINED */

/*!50013 DEFINER=`root`@`localhost` SQL SECURITY DEFINER */

/*!50001 VIEW `weekly_total_hours_cost_check` AS select `hos_department`.`DepartmentName` AS
`departmentname`,`staff`.`Hourly_Rate` AS `hourly_rate`,sum(`staff`.`Hours_Worked`) AS
`Total_Hours`,sum(`staff`.`Total`) AS `Total_Cost` from (`staff` join `hos_department`
on((`staff`.`Department_Num` = `hos_department`.`Id`))) group by
`hos_department`.`DepartmentName` with rollup having (sum(`staff`.`Hours_Worked`) > 20) */;

/*!50001 SET character_set_client      = @saved_cs_client */;

/*!50001 SET character_set_results     = @saved_cs_results */;

/*!50001 SET collation_connection      = @saved_col_connection */;

/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;


/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;

/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;

/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;

/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;

/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;

/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;


-- Dump completed on 2018-12-13  4:43:56
```