IN PARTNERSHIP WITH PLYMOUTH UNIVERSITY

Name:
Student Reference Number:

Module Code: ISAD253SL	Module Name: Databases
Coursework Title: Hospital Management System	
Deadline Date: 10.01.2017	Member of staff responsible for coursework: Ms.Dileeka Alwis
Programme:	

Please note that University Academic Regulations are available under Rules and Regulations on the University website www.plymouth.ac.uk/studenthandbook.

Group work:please list all names of all participants formally associated with this work and state whether the work was undertaken alone or as part of a team. Please note you may be required to identify individual responsibility for component parts.

10569203	Vidanagamage Lasitha T B
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10569137	Dharmagunarathna Sharan S

We confirm that we have read and understood the Plymouth University regulations relating to Assessment Offences and that we are aware of the possible penalties for any breach of these regulations. We confirm that this is the independent work of the group.

Signed on behalf of the group:……
Vidanagamage Lasitha T B

Individual assignment:***I confirm that I have read and understood the Plymouth University regulations relating to Assessment Offences and that I am aware of the possible penalties for any breach of these regulations. I confirm that this is my own independent work.***

Signed:

Use of translation software: failure to declare that translation software or a similar writing aid has been used will be treated as an assessment offence.

I *have used/not used translation software.

If used, please state name of software……

Overall mark _____% **Assessors Initials _____** **Date_____**

*Please delete as appropriateSci/ps/d:/students/cwkfrontcover/2013/14

NerdLK SOLUTIONS

PROJECT REPORT
ISAD253SL-Databases

Hospital Management System
For City Central Hospital

NAME	INDEX
Chirath Deelaka Perera	10569217
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NerdLK – DATABASE REPORT

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Acknowledgement

We would like to thank Mrs.Dileeka Alwis for giving us this project and to build the project based on our own assumptions and ideas and also for her heartfelt support and guidance throughout the successful completion of our project. Her advice and criticisms helped us come up with a good system.

INTRODUCTION

City Central hospital is a multi-specialty hospital that includes a number of departments, rooms, doctors, nurses, attendants, and other staff working in the hospital. Patients having different kinds of ailments come to the hospital and get check-up done from the concerned doctors. If required they are admitted in the hospital and after the treatment is completed, the doctor discharges the patient. Details about patients will collect when any patient arrives in the hospital for a check-up.

Information about Staff in this hospital there are two types of the doctors in the hospital, regular doctors and call on doctors. Regular doctors are those doctors who work in the hospital and come to the hospital daily. Calls on doctors are those doctors who are called by the hospital if the concerned doctor is not available or when additional doctors are required. Also nurses, attendants, and other staff workers are include the hospital Staff.

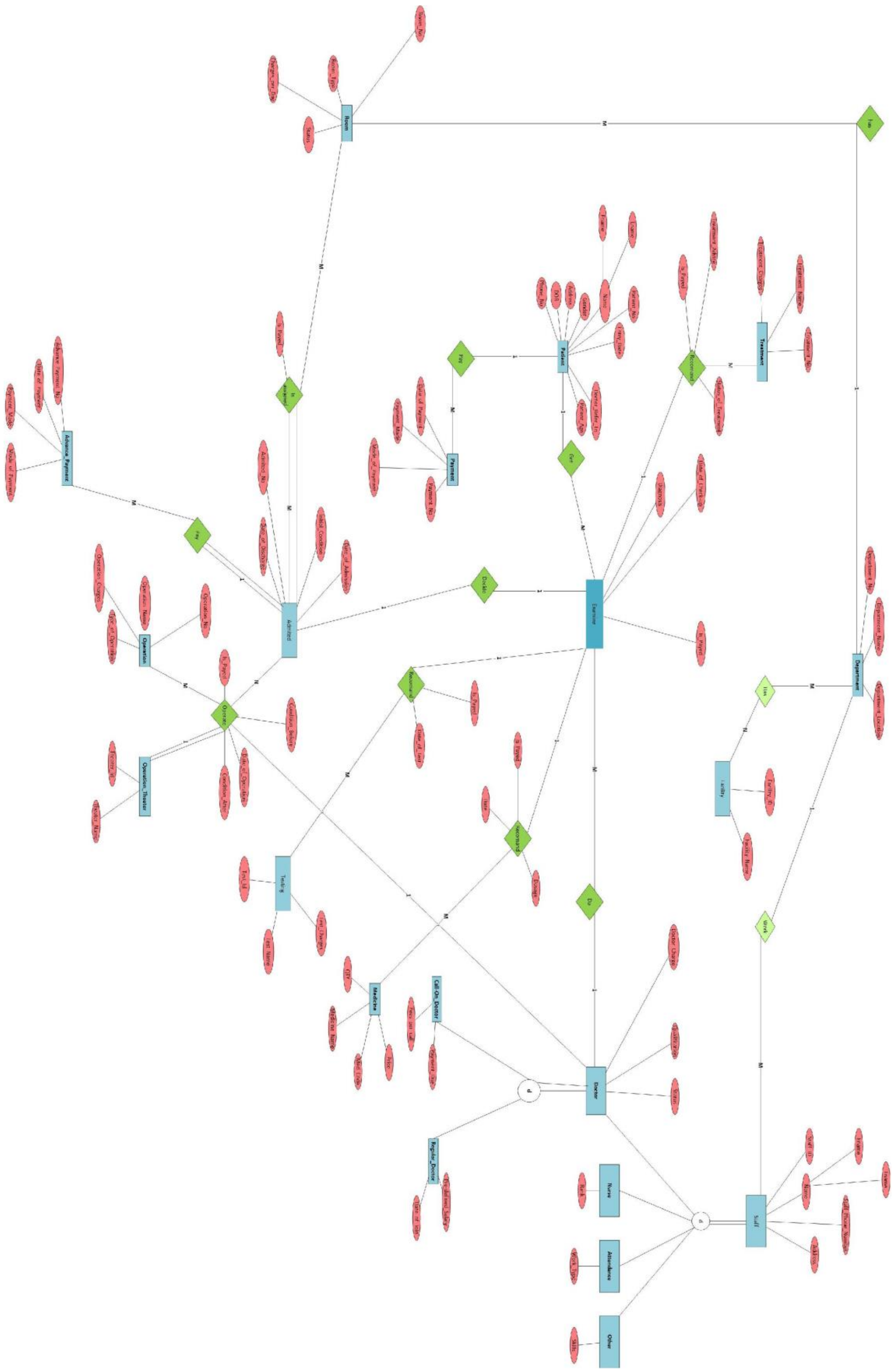
In this hospital, details about various departments are recorded within the database of the hospital management system. Patient's details store in the database, which get treatment from the doctors. If the patient is admitted, or referred for an operation, or even a regular patient to the hospital, the further details which store separately within the database with reference to basic patient information.

Status will save another field which is used to indicate whether the patient is admitted, referred for operation or prescribed medicine to a regular patient to the hospital.

Basic details about medicines, special treatments and operations will also save in the database separately which can be prescribed to patients.

NerdLK SOLUTIONS

Entity Retionship (ER) DIAGRAM

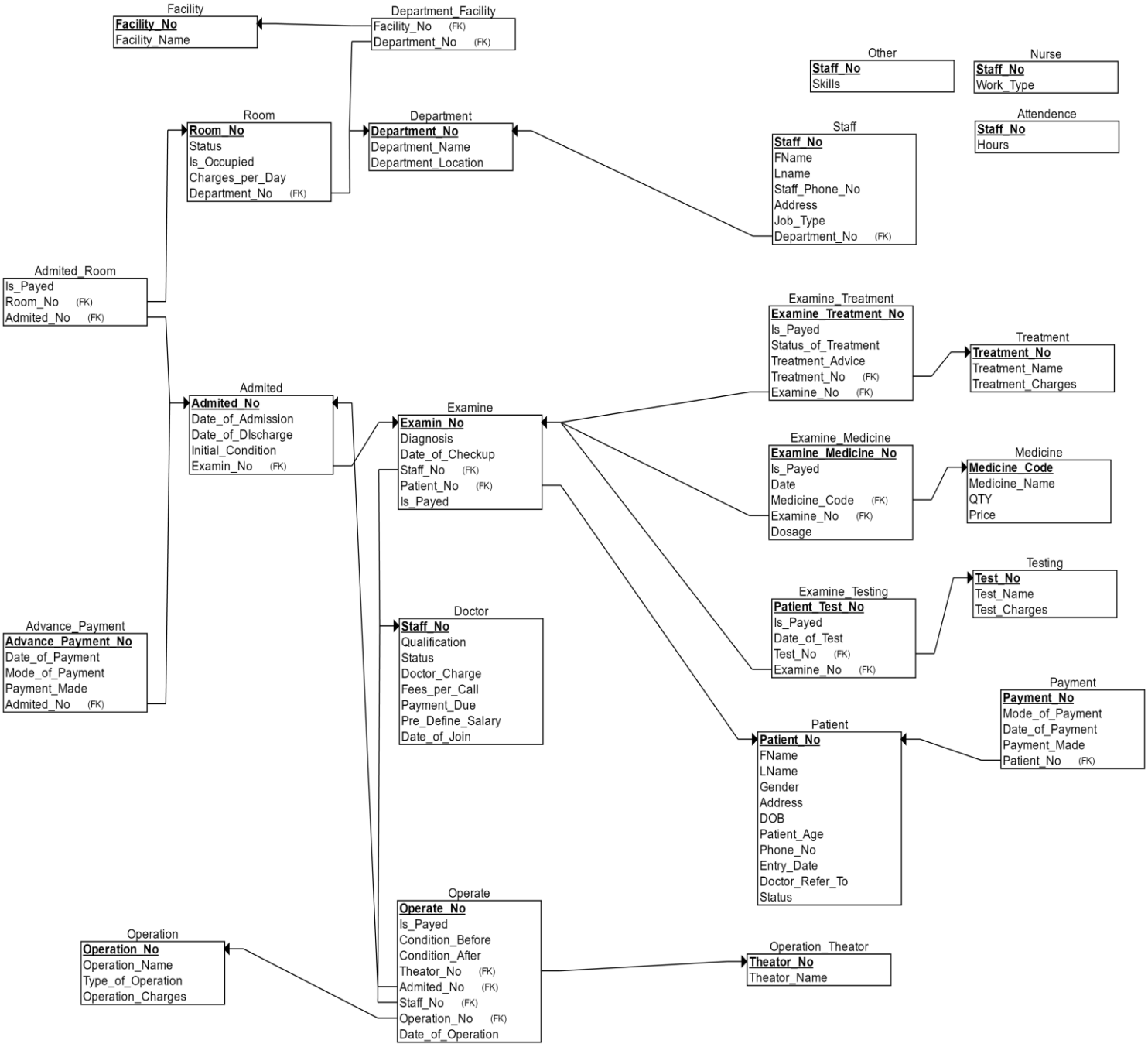


ASSUMPTIONS MADE FOR ER DIAGRAM

- Admitted patients can be identified through records in “Admited” table. (There are no special 2 categories called Regular patient and Admitted Patient. Because both patients have same attributes.)
- Patients should get examines to get Treatments, Medicines, Testing.
- After examines, patients will be directed to their Treatments, Testing and Medicines.
- Each doctor has a Doctor_Charge which is charging for a single examine.
- After examine, doctor can decide patient need to admit or not.
- Operations can only proceed for admitted patients.
- To admit, patients should do a advance payment.
- To admit, patient should select a room.
- Doctor_Reffered_To and Diagnosis in Patient Table are not depending on primary key. Therefore, Doctor_Reffered_To and Diagnosis will be removed from the patient table.
- An admitted patient may examine several time in his admission period.
- When discharging a patient, patient should pay the full balance amount.
- When generating invoice, if the subtotal amount is negative that means
- hospital need to pay to the patient.
- If a patient admits and discharges in same day, then room charge will be applied for a one day.
- The blood transfusion is a treatment and blood transfusion charge includes the blood charges.
- Patients can’t do split payments.
- Operation theatre charges includes in operation charges.

RELATIONAL MAPPING

Scalable file is attached with Soft copy.



NORMALIZATION

Staff

Staff_No	FName	LName	Staff_Phone_No	Address	Job_Type	Department_No

1st Normalization-
This table is not in the 1st Normalize form because there may be more than one phone numbers in Staff people so ***Staff_Phone_No*** may has multi values. Therefore this table can be normalized into 1st normal form.

Staff_Contact

Staff_No	Staff_Phone_No

Staff

Staff_No	FName	LName	Address	Job_Type	Department_No

2nd Normalization-
This two tables are in 2nd normal form because the attributes are depending on primary key

3rd Normalization-
This two tables are in 3rd normal form

Department

Department_No	Department_Name	Department_Location

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form because the attributes are depending on primary key

3rd Normalization-
This two table is in 3rd Normal Form

Patient

Patient_No	FName	LName	Gender	Address	DOB	Patient_Age	Phone_No	Entry_Date	Doctor_Refer_To	Status

1st Noramlization-
This table is not in the 1st Normalize form because there may be more than one phone numbers in patient so ***Phone_No*** may has multi values. Therefore we have to normalize this table into 1st normalization.And Patient_Age is a derived attribute because of that Patient_Age is not coming to the Patient table.And the status and Doctor_Refer_To are not depending on primary key therefore that two attributs are not coming to the table.and patient age is a derived attribute because of that that attribute is also not coming to the table.

Patient_Contact

Patient_No	Phone_No

Patient

Patient_No	FName	LName	Gender	Address	DOB	Entry_Date

2nd Normalization-
This two tables are in 2nd normal form because the attributes are depending on primary key

3rd Normalization-
This two tables are in 3rd normal form

Examine

Examine_No	Diagnosis	Date_of_Checkup	Staff_No	Is_Payed	Patient_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form because the attributes are depending on primary key

3rd Normalization-
This table is in 3rd Normal Form

Examine_Treatment

Examine_Treatment_No	Examine_No	Treatment_No	Is_Payed	Status_of_Treatment	Treatment_Advice

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Admited

Admited_No	Examine_No	Date_of_Admission	Date_of_Discharge	Initial_Condition

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is not in 2nd normal form because Date_of_Admission,Date_of_Discharge,Initial_Condition are depending on Admited_No.It is a partial functional dependency.

Admited_Detail

Admited_No	Examine_No

Admited

Admited_No	Date_of_Admission	Date_of_Discharge	Initial_Condition

3rd Normalization-
This two tables are in 3rd normal form

Treatment

Treatment_No	Treatment_Name	Treatment_Charges

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Payment

Payment_No	Mode_of_Payment	Date_of_Payment	Payment_made	Patient_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Room

Room_No	Room_Type	Status	Charges_per_Day	Department_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Admited_Room

Is_Payed	Room_No	Admited_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Operate

Operate_No	Is_Payed	Condition_Before	Condition_After	Operation_No	Date_of_Operation	Staff_No	Theator_No	Admited_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Operation

Operation_No	Operation_Name	Type_of_Operation	Operation_Charges	Operate_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Operation_Theator

Theator_No	Theator_Name

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Medicine

Medicine_Code	Medicine_Name	QTY	Price

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Examine_Medicine

Examine_Medicine_No	Is_Payed	Date	Dosage	Medicine_Code	Examine_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Testing

Test_No	Test_Name	Test_Charge

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Examine_Testing

Examine_Testing_No	Is_Payed	Date_of_Test	Test_No	Examine_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Doctor

Staff_No	Qualification	Status	Doctor_Charge	Fees_per_Call	Payment_Due	Pre_Define_Salary	Date_of_Join

fees_per_call is not coming to the table because it is like doctor charge.

Doctor

Staff_No	Qualification	Status	Doctor_Charge	Pre_Define_Salary	Date_of_Join

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Nurse

Staff_No	Rank

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Attendance

Staff_No	Work_Type

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Other

Staff_No	Skills

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Advance_Payment

Advance_Payment_No	Mode_of_Payment	Date_of_Payment	Payment_made	Patient_No

1st Normalization-
This table is in 1st normal form.

2nd Normalization-
This table is in 2nd normal form

3rd Normalization-
This table is in 3rd Normal Form

Data Dictionary

Patient

Field Name	Data Type	Field Size	Constraints	Example
Patient_No	VARCHAR	5	Primary key Check	PT001
FName	VARCHAR	20		Isuri
LName	VARCHAR	20		Dasanayaka
Gender	CHAR	1	Check	F
Address	VARCHAR	100		162/2,Temple Rd,Galle
DOB	DATE			1994-03-21
Entry_Date	DATE			2016-12-12

Doctor

Field Name	Data Type	Field Size	Constraints	Example
Staff_No	VARCHAR	5	Primary key Check	DR001
Qualification	VARCHAR	50		Doctor of Medicine
Status	CHAR	1	Check	R
Doctor__Charge	MONEY			2000
Pre_Defined_Salary	MONEY			50000
Date_Of_Join	DATE			2016-07-15

Department

Field Name	Data Type	Field Size	Constraints	Example
Department_No	VARCHAR	5	Primary key Not Null	D001
Department_Name	VARCHAR	20		Orthopedic
Department_Location	VARCHAR	20		B1 groundfloor

Facility

Field Name	Data Type	Field Size	Constraints	Example
Facility_No	INT		Primary key Not Null	1
Facility_Name	VARCHAR	15		Healthcare
Department_No	VARCHAR	5	Foreign key	D001

Treatment

Field Name	Data Type	Field Size	Constraints	Example
Treatment_No	INT		Primary key Not Null	1
Treatment_Name	VARCHAR	25		Physiotherophy
Treatment_Charges	MONEY			1000

Staff

Field Name	Data Type	Field Size	Constraints	Example
Staff_No	VARCHAR	5	Primary key	N002
FName	VARCHAR	15		Laleen
LName	VARCHAR	15		Perera
Address	VARCHAR	50		102/2,Temple Rd,Mathale
Job_Type	CHAR	1	Check	N
Department_No	VARCHAR	5	Foreign key	D001

Examine

Field Name	Data Type	Field Size	Constraints	Example
Examine_No	INT		Primary key	1
Diagnosis	VARCHAR	25		Fever
Date_of_Checkup	DATE			2016-12-12
Is_Payed	BIT			0
Staff_No	VARCHAR	5	Foreign key	DR001
Patient_No	VARCHAR	5	Foreign key	PT001

Examine_Treatment

Field Name	Data Type	Field Size	Constraints	Example
Examine_Treatment_No	INT		Primary key	1
Examine_No	INT		Foreign key	4
Status_Of_Treatment	VARCHAR	20		Fully Completed
Treatment_Advice	VARCHAR	50		Do not exposure to dust
Is_Payed	BIT			0
Treatment_No	INT		Foreign key	6

Testing

Field Name	Data Type	Field Size	Constraints	Example
Test_No	INT		Primary key	1
Test_Name	VARCHAR	20		ECO
Test_Charges	MONEY			1500

Examine_Testing

Field Name	Data Type	Field Size	Constraint	Example
Examine_Testing_No	INT		Primary Key Not Null	1
Is_Payed	Bit			0
Date_of_Test	DATE			
Test_No	INT		Foreign Key Not Null	8
Examine_No	INT		Foreign Key Not Null	2

Admited

Field Name	Data Type	Field Size	Constraint	Example
Admited_No	INT		Primary Key Not Null	1
Date_of_Admission	DATE			2017-01-10
Date_of_Discharge	DATE		Null	
Initial_Condition	VARCHAR	20		Left Kidney not well

Admited_Examine

Field Name	Data Type	Field Size	Constraint	Example
Admited_No	INT		Primary Key Not Null	1
Examine_No	INT		Primary Key Foreign Key Not Null	5

Operation_Theatre

Field Name	Data Type	Field Size	Constraint	Example
Theatre_No	VARCHAR	05	Primary Key Not Null	T0004
Theatre_Name	VARCHAR	25		General OT

Other

Field Name	Data Type	Field Size	Constraint	Example
Staff_No	VARCHAR	05	Primary Key Check Not Null	O002

Advance_Payment

Field Name	Data Type	Field Size	Constraint	Example
Advance_Payment_No	INT		Primary Key Not Null	1
Date_of_Payment	DATE			2017-01-10
Mode_of_Payment	VARCHAR	10	Not Null	C
Payment_Made	MONEY			2500.00
Admited_No	INT		Foreign Key Not Null	1

Staff_Contact

Field Name	Data Type	Field Size	Constraint	Example
Staff_No	VARCHAR	05	Primary Key Not Null	DR001
Staff_Phone_No	NUMERIC	10	Primary Key	0770123547

Patient_Contact

Field Name	Data Type	Field Size	Constraint	Example
Patient_No	VARCHAR	05	Primary Key	PT001
Phone_N	NUMERIC	10	Primary Key	0112459686

Operation

Field Name	Data Type	Field Size	Constraint	Example
Operation_No	INT		Primary Key Not Null	1
Operation_Name	VARCHAR	25		Surgery
Type_of_Operation	VARCHAR	15		Breast
Operation_Charges	MONEY			600000

Operate

Field Name	Data Type	Field Size	Constraint	Example
Operate_No	INT		Primary Key Not Null	5
Is_Payed	bit			0
Condition_Before	VARCHAR	15		L Kidney !well
Operation_No	INT		Foreign Key Not Null	12
Staff_No	VARCHAR	05	Foreign Key Not Null	DR001
Theatre_No	VARCHAR	05	Foreign Key Not Null	T0004
Admited_No	INT		Foreign Key Not Null	1
Date_of_Operation	DATE			2017-01-08

Room

Field Name	Data Type	Field Size	Constraint	Example
Room_No	VARCHAR	5	Primary Key Not Null	R0001
Room_Type	CHAR	1	Check	G
Status	CHAR	1	Check	Y
Charges_per_Day	MONEY			1000
Department_No	VARCHAR	5	Foreign Key Not Null	D001

Admited_Room

Field Name	Data Type	Field Size	Constraint	Example
Is_Payed	bit			0
Room_No	VARCHAR	5	Primary Key Foreign Key Not Null	R004
Admited_Room	INT		Primary Key Foreign Key Not Null	1

Medicine

Field Name	Data Type	Field Size	Constraint	Example
Medicine_Code	VARCHAR	6	Primary Key Not Null	000001
Medicine_Name	VARCHAR	25	Not Null	Panadol
Dosage	VARCHAR	7		900mg
Price	MONEY			2

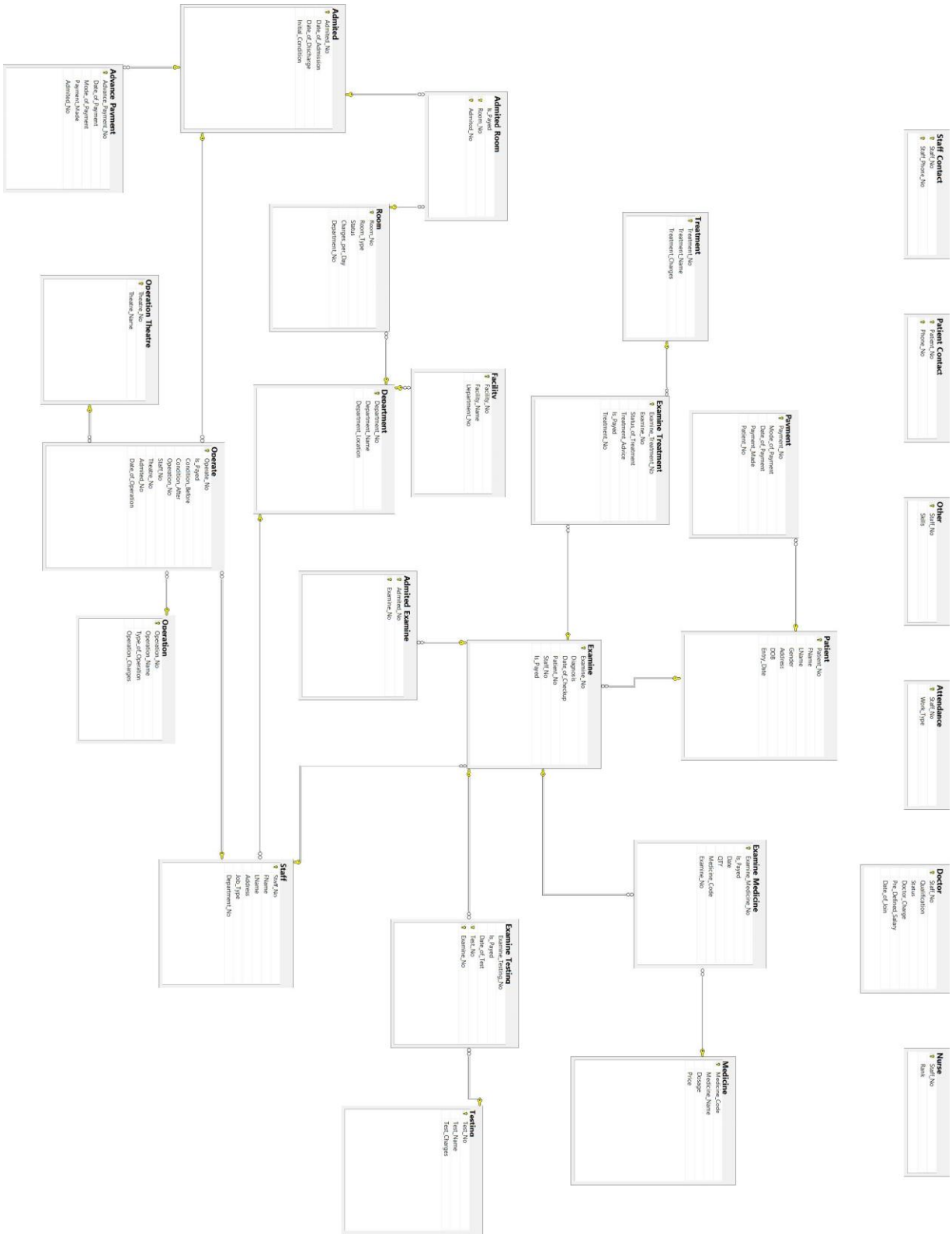
Payment

Field Name	Data Type	Field Size	Constraint	Example
Payment_No	INT		Primary Key Not Null	
Mode_of_Payment	VARCHAR	10		
Date_of_Payment	DATE			
Payment_Made	MONEY		Not Null	
Patient_No	VARCHAR	5	Foreign Key	

Examine_Medicine

Field Name	Data Type	Field Size	Constraint	Example
Examine_Medicine_No	INT		Primary Key Not Null	1
Is_Payed	bit			0
Date	DATE			
QTY	INT			20
Medicine_Code	VARCHAR	6	Foreign Key	000001
Examine_No	INT		Foreign Key Not Null	1

- **Normalized Tables Diagram**



CREATE TABLE STATEMENTS WITH RELATED CONSTRAINT

- **Creating a database called Hospital**

```
create database Hospital
```

- **Creating Tables Statements**

```
CREATE TABLE Patient
(

  Patient_No VARCHAR(5) NOT NULL,
  FName VARCHAR(20),
  LName VARCHAR(20),
  Gender CHAR(1),
  Address VARCHAR(100),
  DOB DATE,
  Entry_Date DATE,
  PRIMARY KEY (Patient_No)
);

CREATE TABLE Doctor
(
  Staff_No VARCHAR(5) NOT NULL,
  Qualification VARCHAR(50),
  Status CHAR(1),
  Doctor_Charge MONEY,
  Pre_Defined_Salary MONEY,
  Date_of_Join Date,
  PRIMARY KEY (Staff_No)
);

CREATE TABLE Department
(
  Department_No VARCHAR(5) NOT NULL,
  Department_Name VARCHAR(20),
  Department_Location VARCHAR(20),
  PRIMARY KEY (Department_No)
);

CREATE TABLE Facility
(
      Facility_No INT IDENTITY NOT NULL,
      Facility_Name VARCHAR(15),
      Department_No VARCHAR(5),
      PRIMARY KEY(Facility_No),
      FOREIGN KEY (Department_No) REFERENCES Department(Department_No)
);
```

```sql
CREATE TABLE Treatment
(
  Treatment_No INT IDENTITY NOT NULL,
  Treatment_Name varchar(25),
  Treatment_Charges MONEY,
  PRIMARY KEY (Treatment_No)
);

CREATE TABLE Staff
(
  Staff_No VARCHAR(5) NOT NULL,
  FName VARCHAR(15),
  LName VARCHAR(15),
  Address VARCHAR(50),
  Job_Type CHAR(1),
  Department_No VARCHAR(5) NOT NULL,
  PRIMARY KEY (Staff_No),
  FOREIGN KEY (Department_No) REFERENCES Department(Department_No)
);

CREATE TABLE Examine
(
  Examine_No INT IDENTITY NOT NULL,
  Diagnosis varchar(25),
  Date_of_Checkup DATE,
  Patient_No VARCHAR(5) NOT NULL,
  Staff_No VARCHAR(5) NOT NULL,
  Is_Payed BIT,
  PRIMARY KEY (Examine_No),
  FOREIGN KEY (Patient_No) REFERENCES Patient(Patient_No),
  FOREIGN KEY (Staff_No) REFERENCES Staff(Staff_No)
);

CREATE TABLE Examine_Treatment(
  Examine_Treatment_No INT IDENTITY NOT NULL,
  Examine_No INT NOT NULL,
  Status_of_Treatment VARCHAR(20),
  Treatment_Advice VARCHAR(50),
  Is_Payed BIT,
  Treatment_No INT NOT NULL,
  PRIMARY KEY (Examine_Treatment_No),
  FOREIGN KEY (Treatment_No) REFERENCES Treatment(Treatment_No),
  FOREIGN KEY (Examine_No) REFERENCES Examine(Examine_No)
  );



CREATE TABLE Testing
(
  Test_No INT IDENTITY NOT NULL,
  Test_Name VARCHAR(20),
```

```sql
  Test_Charges MONEY,
  PRIMARY KEY (Test_No)
);


CREATE TABLE Examine_Testing
(
  Examine_Testing_No INT IDENTITY NOT NULL,
  Is_Payed bit,
  Date_of_Test DATE NOT NULL,
  Test_No INT NOT NULL,
  Examine_No INT NOT NULL,
  FOREIGN KEY (Test_No) REFERENCES Testing(Test_No),
  FOREIGN KEY (Examine_No) REFERENCES Examine(Examine_No),
  CONSTRAINT pk_Examine_Testing PRIMARY KEY (Examine_No,Test_No)
);


CREATE TABLE Admited
(
  Admited_No INT NOT NULL,
  Date_of_Admission DATE,
  Date_of_Discharge DATE,
  Initial_Condition VARCHAR(20),
  CONSTRAINT pk_Admited PRIMARY KEY(Admited_No)
);


CREATE TABLE Admited_Examine(
      Admited_No INT NOT NULL,
      Examine_No INT NOT NULL,
      FOREIGN KEY (Examine_No) REFERENCES Examine(Examine_No),
      PRIMARY KEY(Admited_No,Examine_No)
);

CREATE TABLE Operation_Theatre
(
  Theatre_No VARCHAR(5) NOT NULL,
  Theatre_Name VARCHAR(25),
  PRIMARY KEY (Theatre_No)
);

CREATE TABLE Room
(
  Room_No VARCHAR(5) NOT NULL,
  Room_Type CHAR(1),
  Status CHAR(1),
  Charges_per_Day MONEY,
  Department_No VARCHAR(5) NOT NUll,
  FOREIGN KEY (Department_No) REFERENCES Department(Department_No),
  PRIMARY KEY (Room_No)
);
```

```sql
CREATE TABLE Admited_Room
(
  Is_Payed bit,
  Room_No VARCHAR(5) NOT NULL,
  Admited_No INT NOT NULL,
  FOREIGN KEY (Room_No) REFERENCES Room(Room_No),
  FOREIGN KEY (Admited_No) REFERENCES Admited(Admited_No),
  CONSTRAINT pk_Admited_Room PRIMARY KEY (Room_No,Admited_No)
);


CREATE TABLE Medicine
(
  Medicine_Code VARCHAR(6) NOT NULL,
  Medicine_Name VARCHAR(25) NOT NULL,
  Dosage VARCHAR(7),
  Price MONEY,
  PRIMARY KEY (Medicine_Code)
);

CREATE TABLE Payment
(
  Payment_No INT NOT NULL IDENTITY(1,1),
  Mode_of_Payment VARCHAR(10),
  Date_of_Payment DATE,
  Payment_Made MONEY,
  Patient_No VARCHAR(5) NOT NULL,
  PRIMARY KEY (Payment_No),
  FOREIGN KEY (Patient_No) REFERENCES Patient(Patient_No)
);



CREATE TABLE Examine_Medicine
(
  Examine_Medicine_No INT IDENTITY NOT NULL,
  Is_Payed bit,
  Date DATE,
  QTY INT,
  Medicine_Code VARCHAR(6),
  Examine_No INT NOT NULL,
  FOREIGN KEY (Medicine_Code) REFERENCES Medicine(Medicine_Code),
  FOREIGN KEY (Examine_No) REFERENCES Examine(Examine_No),
  CONSTRAINT pk_Patient_Medicine PRIMARY KEY(Examine_Medicine_No)
);
```

```sql
CREATE TABLE Nurse
(
  Staff_No VARCHAR(5) NOT NULL,
  Rank VARCHAR(50),
  CONSTRAINT pk_Nurse PRIMARY KEY (Staff_No)
);

CREATE TABLE Attendance
(
  Staff_No VARCHAR(5) NOT NULL,
  Work_Type VARCHAR(50),
  CONSTRAINT pk_Attendance PRIMARY KEY (Staff_No)
);

CREATE TABLE Other
(
  Staff_No VARCHAR(5) NOT NULL,
  Skills VARCHAR(50),
  CONSTRAINT pk_Other PRIMARY KEY (Staff_No)
);



CREATE TABLE Advance_Payment
(
  Advance_Payment_No INT NOT NULL IDENTITY,
  Date_of_Payment DATE,
  Mode_of_Payment VARCHAR(10) NOT NULL,
  Payment_Made MONEY,
  Admited_No INT NOT NULL,
  FOREIGN KEY (Admited_No) REFERENCES Admited(Admited_No),
  CONSTRAINT pk_Advance_Payment PRIMARY KEY (Advance_Payment_No)
);

CREATE TABLE Staff_Contact
(
  Staff_No VARCHAR(5) NOT NULL,
  Staff_Phone_No NUMERIC(10),
  CONSTRAINT pk_Staff_Contact PRIMARY KEY (Staff_No,Staff_Phone_No)
);


CREATE TABLE Patient_Contact
(
  Patient_No VARCHAR(5) NOT NULL,
  Phone_No NUMERIC(10),
  CONSTRAINT pk_Patient_Contact PRIMARY KEY (Patient_No,Phone_No)
);
```

```sql
CREATE TABLE Operation
(
  Operation_No INT IDENTITY NOT NULL,
  Operation_Name VARCHAR(25),
  Type_of_Operation VARCHAR(15),
  Operation_Charges MONEY,
  PRIMARY KEY (Operation_No),

);
```

```sql
CREATE TABLE Operate
(
      Operate_No INT IDENTITY NOT NULL,
      Is_Payed bit,
      Condition_Before VARCHAR(15),
      Condition_After VARCHAR(15),
      Operation_No INT  NOT NULL,
      Staff_No VARCHAR(5) NOT NULL,
      Theatre_No VARCHAR(5) NOT NULL,
      Admited_No INT NOT NULL,
      Date_of_Operation DATE,
      FOREIGN KEY (Operation_No) REFERENCES Operation(Operation_No),
      FOREIGN KEY (Staff_No) REFERENCES Staff(Staff_No),
      FOREIGN KEY (Theatre_No) REFERENCES Operation_Theatre(Theatre_No),
      FOREIGN KEY (Admited_No) REFERENCES Admited(Admited_No),
      PRIMARY KEY (Operate_No)
      );
```

- **Check & Unique Constraints**

```
ALTERTABLE Department
ADDCONSTRAINTunique_Department_NameUNIQUE (Department_Name);


ALTERTABLE Patient
ADDCONSTRAINTcheck_Patient_NoCHECK
(SUBSTRING((Patient_No),1,1)=('P')andSUBSTRING((Patient_No),2,1)=('T'));
```

```
insert into Patient values('KT020','Amal','Perera','M','1/23 greenpath,colombo','2000-04-19','2017-01-10')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Patient_No". The conflict occurred in database "Hospital", table "dbo.Patient", column 'Patient_No'.
The statement has been terminated.
```

```
insert into Patient values('PK020','Amal','Perera','M','1/23 greenpath,colombo','2000-04-19','2017-01-10')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Patient_No". The conflict occurred in database "Hospital", table "dbo.Patient", column 'Patient_No'.
The statement has been terminated.
```

```
insert into Patient values('KL020','Amal','Perera','M','1/23 greenpath,colombo','2000-04-19','2017-01-10')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Patient_No". The conflict occurred in database "Hospital", table "dbo.Patient", column 'Patient_No'.
The statement has been terminated.
```

```sql
insert into Patient values('PT020','Amal','Perera','M','1/23 greenpath,colombo','2000-04-19','2017-01-10')
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
ALTERTABLE Patient
ADDCONSTRAINTcheck_GenderCHECK ([Gender] IN('M','F'));
```

```sql
insert into Patient values('PT021','Amal','Perera','k','1/23 greenpath,colombo','2000-04-19','2017-01-10')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Gender". The conflict occurred in database "Hospital", table "dbo.Patient", column 'Gender'.
The statement has been terminated.
```

```sql
insert into Patient values('PT021','Amal','Perera','M','1/23 greenpath,colombo','2000-04-19','2017-01-10')
```

100 %

Messages

```
(1 row(s) affected)
```

```
insert into Patient values('PT022','Amali','Sirisena','F','Nugegoda','2005-04-19','2017-01-10')
```

100 %

Messages

```
(1 row(s) affected)
```

```
ALTERTABLE Doctor
ADDCONSTRAINTcheck_Staff_NoCHECK
((SUBSTRING((Staff_No),1,1)=('D')and((SUBSTRING((Staff_No),2,1)=('R'))OR(S
UBSTRING((Staff_No),2,1)=('C')))));
```

```
insert into Doctor values('TY001','Doctor of Medicine','R',1000,30000,'2016-07-15')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Staff_No". The conflict occurred in database "Hospital", table "dbo.Doctor", column 'Staff_No'.
The statement has been terminated.
```

```
insert into Doctor values('DT001','Doctor of Medicine','R',1000,30000,'2016-07-15')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Staff_No". The conflict occurred in database "Hospital", table "dbo.Doctor", column 'Staff_No'
The statement has been terminated.
```

```sql
insert into Doctor values('TR001','Doctor of Medicine','R',1000,30000,'2016-07-15')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Staff_No". The conflict occurred in database "Hospital", table "dbo.Doctor", column 'Staff_No'.
The statement has been terminated.
```

```sql
insert into Doctor values('DR015','Doctor of Medicine','R',1000,30000,'2016-07-15')
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
insert into Doctor values('DC015','PHD','C',2000,NULL,NULL)
```

100 %

Messages

```
(1 row(s) affected)
```

```
ALTERTABLE Nurse
ADDCONSTRAINT check__Nurse_Staff_NoCHECK
((SUBSTRING((Staff_No),1,1)=('N')));
```

```
insert into Nurse values('N0010','LPN')
```

100 %

Messages

```
(1 row(s) affected)
```

```
insert into Nurse values('Y0011','LPN')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check__Nurse_Staff_No". The conflict occurred in database "Hospital", table "dbo.Nurse", column 'Staff_No
The statement has been terminated.
```

```
ALTERTABLE Attendance
ADDCONSTRAINTcheck_Attendance_Staff_NoCHECK
((SUBSTRING((Staff_No),1,1)=('A')));
```

```
insert into Attendance values('B0011','Part Time')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Attendance_Staff_No". The conflict occurred in database "Hospital", table "dbo.Attendance", column 'Staff_N
The statement has been terminated.
```

```
insert into Attendance values('A0011','Part Time')
```

100 %

Messages

```
(1 row(s) affected)
```

```
ALTERTABLE Other
ADDCONSTRAINTcheck_Other_Staff_NoCHECK
((SUBSTRING((Staff_No),1,1)=('O')));
```

```
insert into Other values('O0010','Driver')
```

100 %

Messages

```
(1 row(s) affected)
```

```
insert into Other values('P0011','Driver')
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 14
The INSERT statement conflicted with the CHECK constraint "check_Other_Staff_No". The conflict occurred in database "Hospital", table "dbo.Other", column 'Staff_N
The statement has been terminated.
```

```sql
ALTERTABLE Room
ADDCONSTRAINTcheck_Room_TypeCHECK ( [Room_Type] IN('G','P'));
```

```sql
INSERT INTO Room VALUES('R0011','G','Y','1000','D002');
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
INSERT INTO Room VALUES('R0012','H','Y','1000','D002');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 13
The INSERT statement conflicted with the CHECK constraint "check_Room_Type". The conflict occurred in database "Hospital", table "dbo.Room", column 'Room_Type'.
The statement has been terminated.
```

```
ALTERTABLE Room
ADDCONSTRAINTcheck_Room_StatusCHECK ( [Status] IN('N','Y'));
```

```
INSERT INTO Room VALUES('R0013','P','Y','1000','D002');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Room VALUES('R0014','P','N','1000','D002');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Room VALUES('R0014','P','U','1000','D002');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 13
The INSERT statement conflicted with the CHECK constraint "check_Room_Status". The conflict occurred in database "Hospital", table "dbo.Room", column 'Status
The statement has been terminated.
```

```sql
ALTERTABLE Staff
ADDCONSTRAINTcheck_Staff_Job_TypeCHECK ([Job_Type] IN('D','N','A','O'));
```

```sql
INSERT INTO Staff VALUES('DR030','Piumal','Perera','Colombo','D','D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
INSERT INTO Staff VALUES('A0030','PiumalI','Silva','Colombo','A','D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
INSERT INTO Staff VALUES('N0030','Hashan','Silva','Colombo','N','D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
INSERT INTO Staff VALUES('O0030','Hashani','Perera','Colombo','O','D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```sql
INSERT INTO Staff VALUES('DR031','Hashani','Perera','Colombo','Z','D001');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 13
The INSERT statement conflicted with the CHECK constraint "check_Staff_Job_Type". The conflict occurred in database "Hospital", table "dbo.Staff", column 'Job_Type'.
The statement has been terminated.
```

```
ALTERTABLE Doctor
ADDCONSTRAINTcheck_Doctor_StatusCHECK ([Status] IN('R','C'));
```

```
INSERT INTO Doctor VALUES('DR031','MSc','R',2000,40000,'2016-08-08');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Doctor VALUES('DC031','MSc','C',1000,30000,'2016-08-08');
```

%

Messages

```
(1 row(s) affected)
```

```sql
INSERT INTO Doctor VALUES('DC035','MSc','P',1000,30000,'2016-08-08');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 13
The INSERT statement conflicted with the CHECK constraint "check_Doctor_Status". The conflict occurred in database "Hospital", table "dbo.Doctor", column 'Status'
The statement has been terminated.
```

- **Check Uppercase Function**

```
CREATEFUNCTION CheckingUppercaseOK
(@String varchar(MAX),@Numint)
RETURNSvarchar(6)
AS
BEGIN

      DECLARE @position asint;
      DECLARE @asciivalasint;
      IF @String ISNULLORLEN(@String)= 0 RETURN'NOT OK';

      SET @position = 0;
      WHILE @position <=LEN(@Num)
      BEGIN
            SET @position = @position + 1;
            SET @asciival=ASCII(SubString(@String,@position,1));
            IF @asciival<65 OR  @asciival>90 RETURN'NOT OK';
      END

      RETURN'OK'
END
```

In using this CheckingUppercaseOK function, the uppercase function converts all letters in the specified string to uppercase. If there are lower case letters to enter to the table, they are unaffected by this function.

E.g:-

```
Check Constraint to check Staff_ID in Doctor Table is an uppercase
ALTERTABLE Doctor
ADDCONSTRAINTStaff_ID_Uppercase
CHECK (dbo.CheckingUppercaseOK([Staff_No],2)='OK')
```

```
INSERT INTO Doctor VALUES('DC036','PHd','C',1000,30000,'2016-08-08');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Doctor VALUES('dc037','PHd','C',1000,30000,'2016-08-08');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Staff_ID_Uppercase". The conflict occurred in database "Hospital", table "dbo.Doctor", column 'Staff_No'.
The statement has been terminated.
```

```
Check Constraint to check Patient_No in Patient Table is an uppercase
ALTERTABLE Patient
ADDCONSTRAINTPatient_No_Uppercase
CHECK (dbo.CheckingUppercaseOK([Patient_No],2)='OK')
```

```
INSERT INTO Patient VALUES('PT035','Lasantha','Wickckram','M','Nuwara','2000-09-08','2017-01-09');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Patient VALUES('pt036','Kumara','Sathish','M','Nuwara','2005-04-09','2017-01-09');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Patient_No_Uppercase". The conflict occurred in database "Hospital", table "dbo.Patient", column 'Patient_No'
The statement has been terminated.
```

```
Check Constraint to check Gender in Patient is an uppercase
ALTERTABLE Patient
ADDCONSTRAINTPatient_Gender_Uppercase
CHECK (dbo.CheckingUppercaseOK([Gender],1)='OK')
```

```
INSERT INTO Patient VALUES('PT038','Chanda','Sathish','m','Nuwara','2005-04-09','2017-01-09');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Patient_Gender_Uppercase". The conflict occurred in database "Hospital", table "dbo.Patient", column 'Gender'.
The statement has been terminated.
```

```
INSERT INTO Patient VALUES('PT038','Chanda','Sathish','M','Nuwara','2005-04-09','2017-01-09');
```

100 %

Messages

```
(1 row(s) affected)
```

```
Check Constraint to check Room_Type in Room is an uppercase
ALTERTABLE Room
ADDCONSTRAINTRoom_Status_Uppercase
CHECK (dbo.CheckingUppercaseOK([Status],1)='OK')
```

```
INSERT INTO Room VALUES('R0035','G','N',1500,'D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Room VALUES('R0038','G','n',1500,'D001');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Room_Status_Uppercase". The conflict occurred in database "Hospital", table "dbo.Room", column 'Status'.
The statement has been terminated.
```

```
Check Constraint to check Room_Type in Room is an uppercase
ALTERTABLE Room
ADDCONSTRAINTRoom_Type_Uppercase
CHECK (dbo.CheckingUppercaseOK([Room_Type],1)='OK')
```

```
INSERT INTO Room VALUES('R0038','G','N',1500,'D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Room VALUES('R0039','g','N',1500,'D001');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Room_Type_Uppercase". The conflict occurred in database "Hospital", table "dbo.Room", column 'Room_Type'.
The statement has been terminated.
```

```
Check Constraint to check Job_Type in Staff is an uppercase
ALTERTABLE Staff
ADDCONSTRAINTStaff_Job_Type
CHECK (dbo.CheckingUppercaseOK([Job_Type],1)='OK')
```

```
INSERT INTO Staff VALUES('N0019','Hasini','Patharanga','Maharagama','N','D001');
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Staff VALUES('N0018','Ahangama','Dies','Maharagama','n','D001');
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Staff_Job_Type". The conflict occurred in database "Hospital", table "dbo.Staff", column 'Job_Type'.
The statement has been terminated.
```

```
Check Constraint to check Status in Doctor is an uppercase
ALTERTABLE Doctor
ADDCONSTRAINTDoctor_Status_Uppercase
CHECK (dbo.CheckingUppercaseOK([Status],1)='OK')
```

```
INSERT INTO Doctor VALUES('DC028','BSc','C',3000,NULL,NULL);
```

100 %

Messages

```
(1 row(s) affected)
```

```
INSERT INTO Doctor VALUES('DC027','BSc','c',5000,NULL,NULL);
```

100 %

Messages

```
Msg 547, Level 16, State 0, Line 25
The INSERT statement conflicted with the CHECK constraint "Doctor_Status_Uppercase". The conflict occurred in database "Hospital", table "dbo.Doctor", column 'Status'.
The statement has been terminated.
```

- **Procedures**

```
Insert Regular Doctor Procedure

CREATEPROCEDURE InsertRDoc @Id VARCHAR(5), @FNameVARCHAR(15),
@LNameVARCHAR(15), @Address VARCHAR (50), @Department_NoVARCHAR (5),
@Qualification VARCHAR(50), @Charge MONEY, @Salary
MONEY,@Date_of_JoinDATE,@TP NUMERIC(10)

AS
declare @Idprevarchar (2)
set @Idpre=(SUBSTRING((@Id),1,2))
set @Id =(UPPER(@Id))
IF(@Idpre='DR')
BEGIN
      IFEXISTS(SELECTNULLFROM Department WHEREDepartment_No=
@Department_No)
      BEGIN
      INSERTINTO Staff
VALUES(@Id,@FName,@LName,@Address,'D',@Department_No)
      INSERTINTO Doctor
VALUES(@Id,@Qualification,'R',@Charge,@Salary,@Date_of_Join)
      INSERTINTOStaff_ContactVALUES(@Id,@TP)
      print ('success')
      END
      ELSE
            BEGIN
            print ('Department No is not valid')
            END
      END
else
begin
print ('Doctor No is not valid')
end
```

e.x:-

```
execute InsertRDoc 'DR040','Anil','Basu','40,main Rd,Kaduwela','D001','phd',2000,40000,'2015-01-10',0718907654
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
success
```

```
SELECT *FROM Staff
SELECT *FROM Staff_Contact
SELECT *FROM Doctor
```

100 %

Results | Messages

	Staff_...	FName	LName	Address	Job_Ty...	Department_...
32	DR008	Tharindu	Perera	102/3,New Bus Stand,Matara	D	D008
33	DR009	Lalantha	Gamunu	138,Highlevel Rd,Nugegoda	D	D013
34	DR010	Sujeewa	De Silva	40,Main Rd,Borella	D	D010
35	DR030	Piumal	Perera	Colombo	D	D001
36	DR040	Anil	Basu	40,main Rd,Kaduwela	D	D001
37	N0019	Hasini	Patharanga	Maharagama	N	D001
38	N002	Laleen	Perera	102/2,Temple Rd,Mathale	N	D001
39	N003	Prabath	Ruberu	22,queens Rd,Kandy	N	D002

	Staff_...	Staff_Phone_...
35	DR008	778958005
36	DR009	75145698
37	DR010	112458695
38	DR040	718907654
39	N002	112789654
40	N003	777509689
41	N004	789656210
42	N0047	718907908

	Staff_...	Qualification	Stat...	Doctor_Char...	Pre_Defined_Sal...	Date_of_J...
22	DR006	Doctor of Philosophy	R	3000.00	50000.00	2015-03-28
23	DR007	Master of Medical Science	R	5000.00	50000.00	2016-01-03
24	DR008	Special of Dermatology	R	3000.00	50000.00	2016-01-02
25	DR009	Special of Cardiology	R	4000.00	50000.00	2015-12-10
26	DR010	Doctor of Dental Science	R	1000.00	50000.00	2016-09-15
27	DR015	Doctor of Medicine	R	1000.00	30000.00	2016-07-15
28	DR031	MSc	R	2000.00	40000.00	2016-08-08
29	DR040	phd	R	2000.00	40000.00	2015-01-10

```
execute InsertRDoc 'DR049','Anil','Basu','40,main Rd,Kaduwela','D090','phd',2000,40000,'2015-01-10',0718907654
```

100 %

Messages

```
Department No is not valid
```

```
execute InsertRDoc 'dc049','Anil','Basu','40,main Rd,Kaduwela','D090','phd',2000,40000,'2015-01-10',0718907654
```

100 %

Messages

```
Doctor No is not valid
```

```
Insert Call on Doctor Procedure

CREATEPROCEDURE InsertCDoc @Id VARCHAR(5), @FNameVARCHAR(15),
@LNameVARCHAR(15), @Address VARCHAR (50), @Department_NoVARCHAR (5),
@Qualification VARCHAR(50), @Charge MONEY, @Salary
MONEY,@Date_of_JoinDATE,@TP NUMERIC(10)

AS
declare @Idprevarchar (2)
set @Idpre=(SUBSTRING((@Id),1,2))
set @Id =(UPPER(@Id))
IF(@Idpre='DC')
BEGIN
      IFEXISTS(SELECTNULLFROM Department WHEREDepartment_No=
@Department_No)
      BEGIN
      INSERTINTO Staff
VALUES(@Id,@FName,@LName,@Address,'D',@Department_No)
      INSERTINTO Doctor VALUES(@Id,@Qualification,'C',@Charge,'','')
      INSERTINTOStaff_ContactVALUES(@Id,@TP)
      print ('success')
      END
      ELSE
            BEGIN
            print ('Department No is not valid')
            END
      END
else
begin
print ('Doctor No is not valid')
end
```

e.x:-

```
execute InsertCDoc 'DC049','Sunil','Kumar','40,main Rd,Kaduwela','D001','phd',2000,NULL,NULL,0718907908
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
success
```

```sql
SELECT *FROM Staff
SELECT *FROM Staff_Contact
SELECT *FROM Doctor
```

100 %

Results | Messages

	Staff_...	FName	LName	Address	Job_Ty...	Department_...
18	DC006	Janak	Wijesingha	408,Thalangama,Koswattha	D	D010
19	DC007	Nisansala	Rathnayaka	76,Fonseka Rd,Rajagiriya	D	D008
20	DC008	Lasith	Wickramasingha	946,Rathnayaka Rd,Kandy	D	D012
21	DC009	Kasun	Perera	52/C,Super Market Rd,Ampara	D	D013
22	DC010	Sihina	Fonseka	111/D,Campus Rd,Malabe	D	D014
23	DC048	Sunil	Kumar	40,main Rd,Kaduwela	D	D001
24	DC049	Sunil	Kumar	40,main Rd,Kaduwela	D	D001
25	DR001	Kamal	Perera	58/D,Super Market,Malabe	D	D001

	Staff_...	Staff_Phone_...
21	DC008	750015681
22	DC009	758645005
23	DC010	759526821
24	DC048	718907908
25	DC049	718907908
26	DR001	712345673
27	DR001	770123547
28	DR002	712364789

	Staff_...	Qualification	Stat...	Doctor_Char...	Pre_Defined_Sal...	Date_of_J...
14	DC036	PHd	C	1000.00	30000.00	2016-08-08
15	DC048	phd	C	2000.00	0.00	1900-01-01
16	DC049	phd	C	2000.00	0.00	1900-01-01
17	DR001	Doctor of Medicine	R	2000.00	50000.00	2016-07-15
18	DR002	Doctor of Osteopathic M...	R	3000.00	50000.00	2015-11-19
19	DR003	Master of Clinical Medicine	R	4000.00	50000.00	2015-10-29
20	DR004	Master of Surgery	R	2000.00	50000.00	2015-01-19
21	DR005	Master of Science	R	2000.00	50000.00	2015-08-05

```
execute InsertCDoc 'DR047','Sunil','Kumar','40,main Rd,Kaduwela','D001','phd',2000,NULL,NULL,0718907908
```

100 %

Messages

```
Doctor No is not valid
```

```
execute InsertCDoc 'DC047','Sunil','Kumar','40,main Rd,Kaduwela','D091','phd',2000,NULL,NULL,0718907908
```

100 %

Messages

```
Department No is not valid
```

```
Insert Nurse Procedure

CREATEPROCEDURE InsertNurse @Id VARCHAR(5), @FNameVARCHAR(15),
@LNameVARCHAR(15), @Address VARCHAR (50), @Department_NoVARCHAR (5),
@Rank VARCHAR(50),@TP NUMERIC(10)

AS
declare @Idprevarchar (1)
set @Idpre=(SUBSTRING((@Id),1,1))
set @Id =(UPPER(@Id))
IF(@Idpre='N')
BEGIN
      IFEXISTS(SELECTNULLFROM Department WHEREDepartment_No=
@Department_No)
      BEGIN
      INSERTINTO Staff
VALUES(@Id,@FName,@LName,@Address,'N',@Department_No)
      INSERTINTO Nurse VALUES(@Id,@Rank)
      INSERTINTOStaff_ContactVALUES(@Id,@TP)
      print ('success')
      END
      ELSE
            BEGIN
            print ('Department No is not valid')
            END
      END
else
begin
print ('Staff_No is not valid')
end
```

```
execute InsertNurse 'N0047','Akila','Sudarshani','40,main Rd,Kaduwela','D001','LPN',0718907908
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
success
```

```
SELECT *FROM Staff
SELECT *FROM Staff_Contact
SELECT *FROM Nurse
```

100 %

Results | Messages

	Staff_...	FName	LName	Address	Job_Ty...	Department_...
39	N003	Prabath	Ruberu	22,queens Rd,Kandy	N	D002
40	N0030	Hashan	Silva	Colombo	N	D001
41	N004	Sampath	Gamage	44/2,Obahena Rd,Madiwela	N	D003
42	N0047	Akila	Sudarshani	40,main Rd,Kaduwela	N	D001
43	N005	Malki	Munasingha	77,Halgahadeniya,Angoda	N	D004
44	N006	Helani	DeSilva	65,Main Street,Dompe	N	D005
45	N007	Shehani	Ranasingha	12/2,Malwattha Rd,Peradeniya	N	D006
46	N008	Yoman	Dissanayaka	10,Jawatte Rd,Colombo 05	N	D007

	Staff_...	Staff_Phone_...
39	N002	112789654
40	N003	777509689
41	N004	789656210
42	N0047	718907908
43	N005	710568974
44	N006	776685006
45	N007	786641152
46	N008	728058003

	Staff_...	Rank
1	N0010	LPN
2	N002	LPN
3	N003	CNA
4	N004	CRNA
5	N0047	LPN
6	N005	LPN
7	N006	CNM
8	N007	CNS
9	N008	NP

```
execute InsertNurse 'O0047','Akila','Sudarshani','40,main Rd,Kaduwela','D001','LPN',0718907908
```

100 %

Messages

```
Staff_No is not valid
```

```
execute InsertNurse 'N0046','Akila','Sudarshani','40,main Rd,Kaduwela','D090','LPN',0718907908
```

100 %

Messages

```
Department No is not valid
```

```
Insert Attendance Procedure

CREATEPROCEDUREInsertAttendance @Id VARCHAR(5), @FNameVARCHAR(15),
@LNameVARCHAR(15), @Address VARCHAR (50), @Department_NoVARCHAR (5),
@Work_TypeVARCHAR(50),@TP NUMERIC(10)

AS
declare @Idprevarchar (1)
set @Idpre=(SUBSTRING((@Id),1,1))
set @Id =(UPPER(@Id))
IF(@Idpre='A')
BEGIN
      IFEXISTS(SELECTNULLFROM Department WHEREDepartment_No=
@Department_No)
      BEGIN
      INSERTINTO Staff
VALUES(@Id,@FName,@LName,@Address,'A',@Department_No)
      INSERTINTO Attendance VALUES(@Id,@Work_Type)
      INSERTINTOStaff_ContactVALUES(@Id,@TP)
      print ('success')
      END
      ELSE
            BEGIN
            print ('Department No is not valid')
            END
      END
else
begin
print ('Staff_No is not valid')
end
```

e.x:-

```
execute InsertAttendance 'A0046','Banu','Alwis','40,main Rd,Kaduwela','D001','Parttime',0718907908
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
success
```

```
SELECT *FROM Staff
SELECT *FROM Staff_Contact
SELECT *FROM Attendance
```

100 %

Results | Messages

	Staff_...	FName	LName	Address	Job_Ty...	Department_...
3	A003	Wimal	Wetthasingha	15/A,Yatigala Rd,Kaduwela	A	D003
4	A0030	Piumall	Silva	Colombo	A	D001
5	A004	Sadun	Sooriyarachchi	122,Main Street,Malabe	A	D004
6	A0046	Banu	Alwis	40,main Rd,Kaduwela	A	D001
7	A005	Karuna	Subasingha	10,HighLevel Rd,Nugegoda	A	D005
8	A006	Wimala	Gamage	81,Abagaha Junction,Katharagama	A	D006
9	A007	Disna	Walisingha	50/3,Mirissa Rd,Monaragala	A	D007
10	A008	Gayan	Gunawardhena	32/4,Gatahatha,Avissawella	A	D008

	Staff_...	Staff_Phone_...
1	A001	775681325
2	A002	773651200
3	A003	714689525
4	A004	712302020
5	A0046	718907908
6	A005	758746585
7	A006	781230265
8	A007	710203056

	Staff_...	Work_Ty...
1	A001	Full Time
2	A0011	Part Time
3	A002	Full Time
4	A003	Full Time
5	A004	Part Time
6	A0046	Parttime
7	A005	Part Time
8	A006	Full Time

```
execute InsertAttendance 'DC0046','Banu','Alwis','40,main Rd,Kaduwela','D001','Parttime',0718907908
```

100 %

Messages

```
Staff_No is not valid
```

```
execute InsertAttendance 'A0050','Banu','Alwis','40,main Rd,Kaduwela','D090','Parttime',0718907908
```

100 %

Messages

```
Department No is not valid
```

Insert Other Procedure

```
CREATEPROCEDUREInsertOther @Id VARCHAR(5), @FNameVARCHAR(15),
@LNameVARCHAR(15), @Address VARCHAR (50), @Department_NoVARCHAR (5),
@Skills VARCHAR(50),@TP NUMERIC(10)

AS
declare @Idprevarchar (1)
set @Idpre=(SUBSTRING((@Id),1,1))
set @Id =(UPPER(@Id))
IF(@Idpre='O')
BEGIN
      IFEXISTS(SELECTNULLFROM Department WHEREDepartment_No=
@Department_No)
      BEGIN
      INSERTINTO Staff
VALUES(@Id,@FName,@LName,@Address,'O',@Department_No)
      INSERTINTO Other VALUES(@Id,@Skills)
      INSERTINTOStaff_ContactVALUES(@Id,@TP)
      print ('success')
      END
      ELSE
            BEGIN
            print ('Department No is not valid')
            END
      END
else
begin
print ('Staff_No is not valid')
end
```

```
execute InsertOther 'O0050','Ashan','Alwis','40,main Rd,Kaduwela','D001','Driver',0718907908
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
success
```

```
SELECT *FROM Staff
SELECT *FROM Staff_Contact
SELECT *FROM other
```

100 %

Results | Messages

	Staff_...	FName	LName	Address	Job_Ty...	Department_...
51	O002	Madawa	Jayasingha	81,Salmal mawatha,Bandarawela	O	D002
52	O003	Tina	Botheju	78/15,Samagi mawatha,Dehiwala	O	D003
53	O0030	Hashani	Perera	Colombo	O	D001
54	O004	Menaka	Peris	18/1,Wickramasinghapura,Battar...	O	D004
55	O005	Kusuma	Perera	11/3,Delkada,Nugegoda	O	D005
56	O0050	Ashan	Alwis	40,main Rd,Kaduwela	O	D001
57	O006	Mala	Gunawardhana	486,Waliwita Rd,Malabe	O	D006
58	O007	Ganesh	Livera	149,Gunasekara Rd,Malabe	O	D007

	Staff_...	Staff_Phone_...
53	O004	778754569
54	O005	714121963
55	O0050	718907908
56	O006	719850056
57	O007	751122330
58	O008	759685741
59	O009	779162382
60	O010	777959398

	Staff_...	Skills
2	O0010	Driver
3	O002	Driver
4	O003	Cleaner
5	O004	Assist...
6	O005	Cleaner
7	O0050	Driver
8	O006	Labour
9	O007	Driver

```
Insert Patient Procedure


CREATEPROCEDURE InsertPatient @Id VARCHAR(5), @FNameVARCHAR(15),
@LNameVARCHAR(15),@Gender CHAR(1), @Address VARCHAR (100),@DOB
DATE,@EntryDateDATE,@TP NUMERIC(10)

AS
declare @Idprevarchar (2)
set @Idpre=(SUBSTRING((@Id),1,2))
set @Id =(UPPER(@Id))
IF(@Idpre='PT')

      BEGIN
      INSERTINTO Patient
VALUES(@Id,@FName,@LName,@Gender,@Address,@DOB,@EntryDate)
      INSERTINTOPatient_ContactVALUES(@Id,@TP)
      print ('success')
      END

else
      begin
            print ('Patient No is not valid')
      end
```

e.x:-

```
execute InsertPatient 'PT050','Gayan','Kanchana','M','40,main Rd,Kaduwela','1993-11-19','2017-01-09',0718907908
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)
success
```

```
SELECT *FROM Patient_Contact
```

100 %

Results | Messages

	Patient_...	Phone_No
1	PT001	112459686
2	PT002	779874662
3	PT003	778965223
4	PT004	112866771
5	PT005	714402003
6	PT006	713214456
7	PT007	719986589
8	PT008	759685456
9	PT009	112529656
10	PT050	718907908

```
SELECT *FROM Patient
```

100 %

Results | Messages

	Patient_...	FName	LName	Gen...	Address	DOB	Entry_Date
1	PT001	Isuri	Dasanayaka	F	162/2,Temple Rd,Galle	1994-03-21	2016-12-12
2	PT002	Asith	Disanayaka	M	302,Main Rd,Galle	1988-06-05	2016-07-15
3	PT003	Roshi	Fernando	F	18,Main Street,Nittabuwa	1992-01-01	2015-04-16
4	PT004	Nisal	Kulasiri	M	10,School Rd,Kegalle	1989-08-11	2015-12-12
5	PT005	Kumudu	Gamage	F	165/A,Old Batapotha Rd,Palawatte	1986-02-01	2015-06-20
6	PT006	Lasantha	Herath	M	111,Silva Rd,Anuradhapura	1996-12-21	2016-03-28
7	PT007	Charith	Fonseka	M	172/8,Temple Rd,Kaleniya	1994-04-14	2016-08-12
8	PT008	Nishan	Pinto	M	177,Makubura,Pannipitiya	1994-05-18	2015-09-12
9	PT009	Madhu	Hettiarachchi	F	308,Annasiwattha Rd,Kottawa	1991-12-07	2016-10-21
10	PT020	Amal	Perera	M	1/23 greenpath,colombo	2000-04-19	2017-01-10
11	PT021	Amal	Perera	M	1/23 greenpath,colombo	2000-04-19	2017-01-10
12	PT022	Amali	Sirisena	F	Nugegoda	2005-04-19	2017-01-10
13	PT035	Lasantha	Wickckram	M	Nuwara	2000-09-08	2017-01-09
14	PT038	Chanda	Sathish	M	Nuwara	2005-04-09	2017-01-09
15	PT050	Gayan	Kanchana	M	40,main Rd,Kaduwela	1993-11-19	2017-01-09

Views

VIEW Doctors

```
CREATEVIEW ViewDoctor AS
SELECT S.Staff_No,S.FName,S.LName,S.Job_Type,S.Address,S.Department_No,
D.Date_of_Join,D.Doctor_Charge,D.Pre_Defined_Salary,D.Qualification,D.Stat
us,
SC.Staff_Phone_No
FROM
Staff AS S
JOIN
Doctor AS D
ON
S.Staff_No=D.Staff_No
JOIN
Staff_ContactAS SC
ON
S.Staff_No=SC.Staff_No;
```

```
select *from ViewDoctor
```

100 %

Results | Messages

	Staff_...	FName	LName	Job_Ty...	Address	Department_...	Date_of_J...	Doctor_Char...	Pre_Defined_Sal...	Qualification	Stat...	Staff_Phone_...
1	DC001	Vimal	Perera	D	14/2 Salmalmawatha,bandarawela	D001	1900-01-01	1000.00	0.00	Doctor of Medicine	C	112457895
2	DC002	Malith	Rajapaksha	D	50 River Street,Anuradhapura	D007	1900-01-01	1500.00	0.00	Master of Medical Science	C	710807865
3	DC003	Shehan	Boomawalage	D	107,Bus Stand Rd,Malabe	D003	1900-01-01	2000.00	0.00	Master of Clinical Medicine	C	715636547
4	DC003	Shehan	Boomawalage	D	107,Bus Stand Rd,Malabe	D003	1900-01-01	2000.00	0.00	Master of Clinical Medicine	C	778956350
5	DC004	Sadumini	Fernando	D	11,Thotagoda,Akmeemana	D004	1900-01-01	1500.00	0.00	Doctor of Medicine	C	752155498
6	DC004	Sadumini	Fernando	D	11,Thotagoda,Akmeemana	D004	1900-01-01	1500.00	0.00	Doctor of Medicine	C	778596584
7	DC005	Vishaka	Wetthasingha	D	45/A,Temple Rd,Galle	D006	1900-01-01	1500.00	0.00	Doctor of Medicine	C	714587656
8	DC006	Janak	Wijesingha	D	408,Thalangama,Koswattha	D010	1900-01-01	1000.00	0.00	Doctor of Dental Science	C	727896540
9	DC007	Nisansala	Rathnayaka	D	76,Fonseka Rd,Rajagiriya	D008	1900-01-01	2000.00	0.00	Special of Dermatology	C	721597533
10	DC008	Lasith	Wickramasingha	D	946,Rathnayaka Rd,Kandy	D012	1900-01-01	2000.00	0.00	Special of Neurology	C	750015681
11	DC009	Kasun	Perera	D	52/C,Super Market Rd,Ampara	D013	1900-01-01	1500.00	0.00	Special of Cardiology	C	758645005
12	DC010	Sihina	Fonseka	D	111/D,Campus Rd,Malabe	D014	1900-01-01	2000.00	0.00	Master of Surgery	C	759526821
13	DC048	Sunil	Kumar	D	40,main Rd,Kaduwela	D001	1900-01-01	2000.00	0.00	phd	C	718907908
14	DC049	Sunil	Kumar	D	40,main Rd,Kaduwela	D001	1900-01-01	2000.00	0.00	phd	C	718907908
15	DR001	Kamal	Perera	D	58/D,Super Market,Malabe	D001	2016-07-15	2000.00	50000.00	Doctor of Medicine	R	712345673
16	DR001	Kamal	Perera	D	58/D,Super Market,Malabe	D001	2016-07-15	2000.00	50000.00	Doctor of Medicine	R	770123547
17	DR002	Prasanna	Gunawardena	D	75/B,Main Rd,Galle	D002	2015-11-19	3000.00	50000.00	Doctor of Osteopathic Medicine	R	712364789
18	DR002	Prasanna	Gunawardena	D	75/B,Main Rd,Galle	D002	2015-11-19	3000.00	50000.00	Doctor of Osteopathic Medicine	R	779856348
19	DR003	Kanthi	Abeywardhana	D	45,Akuregoda,Battaramulla	D003	2015-10-29	4000.00	50000.00	Master of Clinical Medicine	R	75987456
20	DR004	Upali	Gunasekara	D	25,Nugegoda Rd,Kotte	D004	2015-01-19	2000.00	50000.00	Master of Surgery	R	712345468
21	DR005	Madhawa	Fernando	D	79,Silva Rd,Wattala	D005	2015-08-05	2000.00	50000.00	Master of Science	R	728058230
22	DR006	Nishani	Dissanayaka	D	18/3,Pannipitiya Rd,Kottawa	D006	2015-03-28	3000.00	50000.00	Doctor of Philosophy	R	77987321
23	DR007	Shanaka	Kularathna	D	120,Kasbawa Rd,Horana	D007	2016-01-03	5000.00	50000.00	Master of Medical Science	R	770804693
24	DR008	Tharindu	Perera	D	102/3,New Bus Stand,Matara	D008	2016-01-02	3000.00	50000.00	Special of Dermatology	R	778958005
25	DR009	Lalantha	Gamunu	D	138,Highlevel Rd,Nugegoda	D013	2015-12-10	4000.00	50000.00	Special of Cardiology	R	75145698
26	DR010	Sujeewa	De Silva	D	40,Main Rd,Borella	D010	2016-09-15	1000.00	50000.00	Doctor of Dental Science	R	112458695
27	DR040	Anil	Basu	D	40,main Rd,Kaduwela	D001	2015-01-10	2000.00	40000.00	phd	R	718907654

```
VIEW Regular Doctors

CREATEVIEW ViewRDoctor AS
SELECT S.Staff_No,S.FName,S.LName,S.Job_Type,S.Address,S.Department_No,
D.Date_of_Join,D.Doctor_Charge,D.Pre_Defined_Salary,D.Qualification,
SC.Staff_Phone_No
FROM
Staff AS S
JOIN
Doctor AS D
ON
S.Staff_No=D.Staff_No
JOIN
Staff_ContactAS SC
ON
S.Staff_No=SC.Staff_No
WHERED.Status='R';
```

```
select *from ViewRDoctor
```

100 %

Results | Messages

	Staff_...	FName	LName	Job_Ty...	Address	Department_...	Date_of_J...	Doctor_Char...	Pre_Defined_Sal...	Qualification	Staff_Phone_...
1	DR001	Kamal	Perera	D	58/D,Super Market,Malabe	D001	2016-07-15	2000.00	50000.00	Doctor of Medicine	712345673
2	DR001	Kamal	Perera	D	58/D,Super Market,Malabe	D001	2016-07-15	2000.00	50000.00	Doctor of Medicine	770123547
3	DR002	Prasanna	Gunawardena	D	75/B,Main Rd,Galle	D002	2015-11-19	3000.00	50000.00	Doctor of Osteopathic Medicine	712364789
4	DR002	Prasanna	Gunawardena	D	75/B,Main Rd,Galle	D002	2015-11-19	3000.00	50000.00	Doctor of Osteopathic Medicine	779856348
5	DR003	Kanthi	Abeywardha...	D	45,Akuregoda,Battaramu...	D003	2015-10-29	4000.00	50000.00	Master of Clinical Medicine	75987456
6	DR004	Upali	Gunasekara	D	25,Nugegoda Rd,Kotte	D004	2015-01-19	2000.00	50000.00	Master of Surgery	712345468
7	DR005	Madhawa	Fernando	D	79,Silva Rd,Wattala	D005	2015-08-05	2000.00	50000.00	Master of Science	728058230
8	DR006	Nishani	Dissanayaka	D	18/3,Pannipitiya Rd,Kott...	D006	2015-03-28	3000.00	50000.00	Doctor of Philosophy	77987321
9	DR007	Shanaka	Kularathna	D	120,Kasbawa Rd,Horana	D007	2016-01-03	5000.00	50000.00	Master of Medical Science	770804693
10	DR008	Tharindu	Perera	D	102/3,New Bus Stand,M...	D008	2016-01-02	3000.00	50000.00	Special of Dermatology	778958005
11	DR009	Lalantha	Gamunu	D	138,Highlevel Rd,Nugeg...	D013	2015-12-10	4000.00	50000.00	Special of Cardiology	75145698
12	DR010	Sujeewa	De Silva	D	40,Main Rd,Borella	D010	2016-09-15	1000.00	50000.00	Doctor of Dental Science	112458695
13	DR040	Anil	Basu	D	40,main Rd,Kaduwela	D001	2015-01-10	2000.00	40000.00	phd	718907654

```
VIEW Call on Doctors

CREATEVIEW ViewCDoctor AS
SELECT S.Staff_No,S.FName,S.LName,S.Job_Type,S.Address,S.Department_No,
D.Date_of_Join,D.Doctor_Charge,D.Pre_Defined_Salary,D.Qualification,
SC.Staff_Phone_No
FROM
Staff AS S
JOIN
Doctor AS D
ON
S.Staff_No=D.Staff_No
JOIN
Staff_ContactAS SC
ON
S.Staff_No=SC.Staff_No
WHERED.Status='C';
```

```
select *from ViewCDoctor
```

100 %

Results | Messages

	Staff_...	FName	LName	Job_Ty...	Address	Department_...	Date_of_J...	Doctor_Char...	Pre_Defined_Sal...	Qualification	Staff_Phone_...
1	DC001	Vimal	Perera	D	14/2 Salmalmawatha,bandarawela	D001	1900-01-01	1000.00	0.00	Doctor of Medicine	112457895
2	DC002	Malith	Rajapaksha	D	50 River Street,Anuradhapura	D007	1900-01-01	1500.00	0.00	Master of Medical Science	710807865
3	DC003	Shehan	Boomawalage	D	107,Bus Stand Rd,Malabe	D003	1900-01-01	2000.00	0.00	Master of Clinical Medicine	715636547
4	DC003	Shehan	Boomawalage	D	107,Bus Stand Rd,Malabe	D003	1900-01-01	2000.00	0.00	Master of Clinical Medicine	778956350
5	DC004	Sadumini	Fernando	D	11,Thotagoda,Akmeemana	D004	1900-01-01	1500.00	0.00	Doctor of Medicine	752155498
6	DC004	Sadumini	Fernando	D	11,Thotagoda,Akmeemana	D004	1900-01-01	1500.00	0.00	Doctor of Medicine	778596584
7	DC005	Vishaka	Wetthasingha	D	45/A,Temple Rd,Galle	D006	1900-01-01	1500.00	0.00	Doctor of Medicine	714587656
8	DC006	Janak	Wijesingha	D	408,Thalangama,Koswattha	D010	1900-01-01	1000.00	0.00	Doctor of Dental Science	727896540
9	DC007	Nisansala	Rathnayaka	D	76,Fonseka Rd,Rajagiriya	D008	1900-01-01	2000.00	0.00	Special of Dermatology	721597533
10	DC008	Lasith	Wickramasingha	D	946,Rathnayaka Rd,Kandy	D012	1900-01-01	2000.00	0.00	Special of Neurology	750015681
11	DC009	Kasun	Perera	D	52/C,Super Market Rd,Ampara	D013	1900-01-01	1500.00	0.00	Special of Cardiology	758645005
12	DC010	Sihina	Fonseka	D	111/D,Campus Rd,Malabe	D014	1900-01-01	2000.00	0.00	Master of Surgery	759526821
13	DC048	Sunil	Kumar	D	40,main Rd,Kaduwela	D001	1900-01-01	2000.00	0.00	phd	718907908
14	DC049	Sunil	Kumar	D	40,main Rd,Kaduwela	D001	1900-01-01	2000.00	0.00	phd	718907908

VIEW Nurse

```
CREATEVIEW ViewNurse AS
SELECT S.Staff_No,S.FName,S.LName,S.Job_Type,S.Address,S.Department_No,
N.Rank,SC.Staff_Phone_No
FROM
Staff AS S
JOIN
Nurse AS N
ON
S.Staff_No=N.Staff_No
JOIN
Staff_ContactAS SC
ON
S.Staff_No=SC.Staff_No
```

```
select *from ViewNurse
```

100 %

Results | Messages

	Staff_No	FName	LName	Job_Type	Address	Department_No	Rank	Staff_Phone_No
1	N002	Laleen	Perera	N	102/2,Temple Rd,Mathale	D001	LPN	112789654
2	N003	Prabath	Ruberu	N	22,queens Rd,Kandy	D002	CNA	777509689
3	N004	Sampath	Gamage	N	44/2,Obahena Rd,Madiwela	D003	CRNA	789656210
4	N0047	Akila	Sudarshani	N	40,main Rd,Kaduwela	D001	LPN	718907908
5	N005	Malki	Munasingha	N	77,Halgahadeniya,Angoda	D004	LPN	710568974
6	N006	Helani	DeSilva	N	65,Main Street,Dompe	D005	CNM	776685006
7	N007	Shehani	Ranasingha	N	12/2,Malwattha Rd,Peradeniya	D006	CNS	786641152
8	N008	Yoman	Dissanayaka	N	10,Jawatte Rd,Colombo 05	D007	NP	728058003
9	N009	Upul	Wijesingha	N	34,Bagawatthe Rd,Wellawatthe	D008	CRNA	710957895
10	N010	Nishani	Fonseka	N	70/A,main Rd,Ampara	D009	RN	752365894
11	N011	Maleesha	Perera	N	10,main Rd,Palawatta	D010	LPN	7102030456

VIEW Attendace

```
CREATEVIEW ViewAttendace AS
SELECT S.Staff_No,S.FName,S.LName,S.Job_Type,S.Address,S.Department_No,
A.Work_Type,SC.Staff_Phone_No
FROM
Staff AS S
JOIN
Attendance AS A
ON
S.Staff_No=A.Staff_No
JOIN
Staff_ContactAS SC
ON
S.Staff_No=SC.Staff_No
```

```
select *from ViewAttendace
```

100 %

Results | Messages

	Staff_No	FName	LName	Job_Type	Address	Department_No	Work_Type	Staff_Phone_No
1	A001	Lal	Dutugamuwa	A	102/2,Temple Rd,Matara	D001	Full Time	775681325
2	A002	matin	Perera	A	100,Pahathkumbura Rd,Hanwella	D002	Full Time	773651200
3	A003	Wimal	Wetthasingha	A	15/A,Yatigala Rd,Kaduwela	D003	Full Time	714689525
4	A004	Sadun	Sooriyarachchi	A	122,Main Street,Malabe	D004	Part Time	712302020
5	A0046	Banu	Alwis	A	40,main Rd,Kaduwela	D001	Parttime	718907908
6	A005	Karuna	Subasingha	A	10,HighLevel Rd,Nugegoda	D005	Part Time	758746585
7	A006	Wimala	Gamage	A	81,Abagaha Junction,Katharagama	D006	Full Time	781230265
8	A007	Disna	Walisingha	A	50/3,Mirissa Rd,Monaragala	D007	Part Time	710203056
9	A008	Gayan	Gunawardhena	A	32/4,Gatahatha,Avissawella	D008	Full Time	772320564
10	A009	Gayani	Fonseka	A	2924,Stage3,Anuradhapura	D009	Part Time	785256465
11	A010	Janitha	Wijesiri	A	45,First Cross Street,Colombo7	D010	Part Time	764682302

VIEW Other

```
CREATEVIEW ViewOther AS
SELECT S.Staff_No,S.FName,S.LName,S.Job_Type,S.Address,S.Department_No,
O.Skills,SC.Staff_Phone_No
FROM
Staff AS S
JOIN
Other AS O
ON
S.Staff_No=O.Staff_No
JOIN
Staff_ContactAS SC
ON
S.Staff_No=SC.Staff_No
```

```
select *from ViewOther
```

100 %

Results | Messages

	Staff_No	FName	LName	Job_Type	Address	Department_No	Skills	Staff_Phone_No
1	O001	Isuri	Dasanayaka	O	11/B,ST joshep lane,chilaw	D001	Labour	112866789
2	O002	Madawa	Jayasingha	O	81,Salmal mawatha,Bandarawela	D002	Driver	754596356
3	O003	Tina	Botheju	O	78/15,Samagi mawatha,Dehiwala	D003	Cleaner	772012365
4	O004	Menaka	Peris	O	18/1,Wickramasinghapura,Battaramulla	D004	Assistant	778754569
5	O005	Kusuma	Perera	O	11/3,Delkada,Nugegoda	D005	Cleaner	714121963
6	O0050	Ashan	Alwis	O	40,main Rd,Kaduwela	D001	Driver	718907908
7	O006	Mala	Gunawardhana	O	486,Waliwita Rd,Malabe	D006	Labour	719850056
8	O007	Ganesh	Livera	O	149,Gunasekara Rd,Malabe	D007	Driver	751122330
9	O008	Samanmali	Dissanayaka	O	12,Tample Rd,Weerawila	D008	Cleaner	759685741
10	O009	Sathsarani	Ranaweera	O	17/5,Morakatiya,Pannipitiya	D009	Labour	779162382
11	O010	Gunasiri	Rathnasekara	O	102,Katubadda,Moratuwa	D010	Driver	777959398

View Admited Patients

```
CREATEVIEW ViewAdmited Patients AS
select
Admited.Admited_No,Admited.Date_of_Admission,Admited.Date_of_Discharge,
Admited.Initial_Condition,Examine.Examine_No,Examine.Patient_No,Admited_Ro
om.Room_No
from Examine
joinAdmited_ExamineonAdmited_Examine.Examine_No=Examine.Examine_No
joinAdmitedonAdmited.Admited_No=Admited_Examine.Admited_No
JoinAdmited_RoomonAdmited.Admited_No=Admited_Room.Admited_No
```

```
select *from ViewAdmitedPatients
```

100 %

Results | Messages

	Admited_...	Date_of_Admiss...	Date_of_Discha...	Initial_Condition	Examine_...	Patient_...	Room_...
1	1	2017-01-10	NULL	Left Kidney not well	5	PT005	R0004

- **Admit Patient Procedure**

```
CREATE PROCEDURE AdmitPatient @Examine_No INT ,@I_Condition VARCHAR (20),
@Room_No VARCHAR (5),@Payment_Mod VARCHAR ,@Payment MONEY
AS
BEGIN
DECLARE @Id INT
DECLARE @Patient_No VARCHAR (5)
IF EXISTS (SELECT Admited_No FROM Admited)
BEGIN
SET @Id = (SELECT TOP 1 Admited_No FROM Admited ORDER BY Admited_No DESC)
SET @Id = (@Id +1)
END
 ELSE
  BEGIN
   SET @Id = (1)
  END

DECLARE @Date DATE
SET @Date = (GETDATE())

IF EXISTS (SELECT NULL FROM Room WHERE Room_No=@Room_No AND Status='Y')
 BEGIN
   PRINT ('Room is already reserved for another Patient')
   RETURN
 END

SET @Patient_No = (SELECT Patient_No FROM Examine WHERE
Examine_No=@Examine_No)
IF EXISTS (select NULL from Admited_Examine join Examine on
Admited_Examine.Examine_No=Examine.Examine_No join Admited on
Admited.Admited_No=Admited_Examine.Admited_No   where Examine.Patient_No
=@Patient_No and Admited.Date_of_Discharge is null )
BEGIN
 PRINT ('Patient is already Admited cannot admit a patient without
discharging')
 RETURN
END

INSERT INTO Admited VALUES (@Id,@Date,NULL,@I_Condition)
INSERT INTO Admited_Examine VALUES (@Id,@Examine_No)
INSERT INTO Admited_Room VALUES (0,@Room_No,@Id)
INSERT INTO Advance_Payment VALUES (@Date,@Payment_Mod,@Payment,@Id)

END
```

To execute `AdmitPatient` **procedure, let's check rooms are occupied or not**

```
select * from Room
```

100 %

Results | Messages

	Room_No	Room_Ty...	Status	Charges_per_Day	Department_No
1	R0001	G	Y	1000.00	D002
2	R0002	G	Y	3000.00	D003
3	R0003	P	Y	1500.00	D003
4	R0004	P	Y	750.00	D004
5	R0005	P	Y	2500.00	D007
6	R0006	G	N	1000.00	D007
7	R0007	G	N	1000.00	D009
8	R0008	G	Y	1000.00	D009
9	R0009	G	N	1000.00	D013
10	R0010	G	Y	3000.00	D014

Lets try to Admit to a occupied room

```
exec AdmitPatient 1,'Left Kidney not well','R0001','Cash',2500;
```

100 %

Messages

```
Room is already reserved for another Patient
```

Let's try to Admit to not occupied room

```
exec AdmitPatient 1,'Left Kidney not well','R0006','Cash',2500;
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
```

Let's check whether data entered or not

```
select* from Admited
select * from Admited_Examine
select * from Admited_Room
select * from Advance_Payment
```

100 %

Results | Messages

	Admited_...	Date_of_Admission	Date_of_Discha...	Initial_Condition
1	1	2017-01-10	NULL	Left Kidney not well
2	2	2017-01-10	NULL	Left Kidney not well

	Admited_...	Examine_No
1	1	5
2	2	1

	Is_Payed	Room_...	Admited_No
1	0	R0004	1
2	0	R0006	2

	Advance_Payment_No	Date_of_Payment	Mode_of_Payment	Payment_Made	Admited_No
1	1	2017-01-10	C	2500.00	1
2	2	2017-01-10	C	2500.00	2

Let's try to admit the same patient without discharging

```
exec AdmitPatient 1,'Left Kidney not well','R0007','Cash',2500;
```

100 %

Messages

```
Patient is already Admited cannot admit a patient without discharging
```

- **UpdateAdmitedExamine Trigger**
  What this trigger does is if a admitted patient examines in the admitted period a row will be inserted to the **Admited_Examine** Table

```
CREATE Trigger UpdateAdmitedExamine
ON [dbo].[Examine]
After insert
AS
            declare @beforeAdmitedNo int;
            declare @ExamineNo int;
            declare @PatientNo VARCHAR(5);

            select @ExamineNo = [Examine_No] from inserted;

            select @PatientNo=[Patient_No] from inserted;

IF EXISTS (select  NULL from Admited_Examine join Examine on
Admited_Examine.Examine_No =Examine.Examine_No
join Admited on Admited.Admited_No=Admited_Examine.Admited_No
where Examine.Patient_No = @PatientNo and Admited.Date_of_Discharge is
null)
BEGIN
SET @beforeAdmitedNo =(select DISTINCT Admited.Admited_No from
Admited_Examine join Examine on Admited_Examine.Examine_No
=Examine.Examine_No
join
Admited on Admited.Admited_No=Admited_Examine.Admited_No
where
Examine.Patient_No = @PatientNo and Admited.Date_of_Discharge is null)

INSERT INTO Admited_Examine VALUES (@beforeAdmitedNo,@ExamineNo)
END
```

Let's check admitted patients

```
select * from ViewAdmitedPatients
```

100 %

Results | Messages

	Admited_No	Date_of_Admission	Date_of_Discharge	Initial_Condition	Examine_No	Patient_No	Room_No
1	1	2017-01-10	NULL	Left Kidney not well	5	PT005	R0004
2	2	2017-01-10	NULL	Left Kidney not well	1	PT001	R0006

Lets examine patient 'PT001'

```
INSERT INTO Examine VALUES ('Fever','2016-12-12','PT001','DR001',0);
```

100 %

Messages

```
(1 row(s) affected)

(1 row(s) affected)
```

Now let's check Admited_Examin Table

```
select * from Admited_Examine
```

100 %

Results | Messages

	Admited_No	Examine_No
1	1	5
2	2	1
3	2	11

- **Room_Status_Is_Occupied Trigger**
  What this trigger does is, when a patient is admitting, room status will automatically update.

```
CREATE TRIGGER Room_Status_Is_Occupied
ON
[dbo].[Admited_Room]
AFTER INSERT
AS
      DECLARE @room_no VARCHAR(5);

            SELECT @room_no=[Room_No] FROM inserted;

            UPDATE  [dbo].[Room] SET [Status]='Y' WHERE
[Room_No]=@room_no;
```

```
select * from Room
```

100 %

Results | Messages

	Room_...	Room_Type	Status	Charges_per_Day	Department_...
1	R0001	G	Y	1000.00	D002
2	R0002	G	Y	3000.00	D003
3	R0003	P	Y	1500.00	D003
4	R0004	P	Y	750.00	D004
5	R0005	P	Y	2500.00	D007
6	R0006	G	Y	1000.00	D007
7	R0007	G	N	1000.00	D009
8	R0008	G	Y	1000.00	D009
9	R0009	G	N	1000.00	D013
10	R0010	G	Y	3000.00	D014

Let's admit a patient to the 'R007' Room

```
exec AdmitPatient 6,'Left Kidney not well','R0007','Cash',2500;
```

Let's check rooms again

```
select * from Room
```

100 %

Results | Messages

	Room_...	Room_Ty...	Stat...	Charges_per_...	Department_...
1	R0001	G	Y	1000.00	D002
2	R0002	G	Y	3000.00	D003
3	R0003	P	Y	1500.00	D003
4	R0004	P	Y	750.00	D004
5	R0005	P	Y	2500.00	D007
6	R0006	G	Y	1000.00	D007
7	R0007	G	Y	1000.00	D009
8	R0008	G	Y	1000.00	D009
9	R0009	G	N	1000.00	D013
10	R0010	G	Y	3000.00	D014

- **Admited_Room_Discharge_Status Trigger**
  When a patient is discharging trigger will update the room status

```
CREATE TRIGGER Admited_Room_Discharge_Status
ON
[dbo].[Admited]
AFTER UPDATE
AS
      DECLARE @AdmitedNo INT;
      DECLARE @DateOfDischarge DATE;
      DECLARE @RoomNo VARCHAR(5);

            SELECT @AdmitedNo = [Admited_No] FROM inserted;
            SELECT @DateOfDischarge=[Date_of_Discharge] FROM inserted;

            SELECT @RoomNo = [Room_No] FROM [dbo].[Admited_Room] WHERE
            [Admited_No]=@AdmitedNo;


            IF(@DateOfDischarge IS NOT NULL)

                  UPDATE  [dbo].[Room] SET [Status]='N' WHERE
[Room_No]=@RoomNo;
```

```
1  select * from Room
2
```

100 %

Results | Messages

	Room_...	Room_Ty...	Stat...	Charges_per_...	Department_...
1	R0001	G	Y	1000.00	D002
2	R0002	G	Y	3000.00	D003
3	R0003	P	Y	1500.00	D003
4	R0004	P	Y	750.00	D004
5	R0005	P	Y	2500.00	D007
6	R0006	G	Y	1000.00	D007
7	R0007	G	Y	1000.00	D009
8	R0008	G	Y	1000.00	D009
9	R0009	G	N	1000.00	D013
10	R0010	G	Y	3000.00	D014

```
Update Admited Set Date_of_Discharge = (GETDATE()) Where Admited_No=1
```

```
select * from Room
```

100 %

Results | Messages

	Room_...	Room_Ty...	Stat...	Charges_per_...	Department_...
1	R0001	G	Y	1000.00	D002
2	R0002	G	Y	3000.00	D003
3	R0003	P	Y	1500.00	D003
4	R0004	P	N	750.00	D004
5	R0005	P	Y	2500.00	D007
6	R0006	G	Y	1000.00	D007
7	R0007	G	Y	1000.00	D009
8	R0008	G	Y	1000.00	D009
9	R0009	G	N	1000.00	D013
10	R0010	G	Y	3000.00	D014

- **CheckOperateAdmited Trigger**
  When discharged patient trying to do a operation, trigger will prevent that

```
CREATE TRIGGER CheckOperateAdmited
ON Operate AFTER INSERT AS
DECLARE @Admited_No INT
SET @Admited_No= (SELECT Admited_No from INSERTED)
IF EXISTS (SELECT NULL FROM Admited WHERE Admited_No=@Admited_No AND
Date_of_Discharge IS NOT NULL)
BEGIN
PRINT ('Patient is already discharged. Cannot Operate a discharged
patient')
ROLLBACK
END
```

```
select * from ViewAdmitedPatients
```

100 %

Results | Messages

	Admited_No	Date_of_Admiss...	Date_of_Discharge	Initial_Condition	Examine_...	Patient_...	Room_...
1	1	2017-01-10	2017-01-10	Left Kidney not well	5	PT005	R0004
2	2	2017-01-10	NULL	Left Kidney not well	1	PT001	R0006
3	2	2017-01-10	NULL	Left Kidney not well	11	PT001	R0006
4	3	2017-01-10	NULL	Left Kidney not well	6	PT006	R0007

```
INSERT INTO Operate VALUES (0,NULL,NULL,12,'DR001','T0004',1,'2017-01-08');
```

100 %

Messages

```
Patient is already discharged. Cannot Operate a discharged patient
Msg 3609, Level 16, State 1, Line 1
The transaction ended in the trigger. The batch has been aborted.
```

- **UpdateAdmitedDischargeDate Trigger**
  After a admitted patient is complete his payment, Patient will be automatically discharged.

```
CREATE TRIGGER UpdateAdmitedDischargeDate
ON Payment AFTER INSERT AS
DECLARE @Patient_No VARCHAR(5)
SET @Patient_No =(SELECT Patient_No FROM inserted)
IF EXISTS(select NULL from Examine
join Admited_Examine on Admited_Examine.Examine_No =Examine.Examine_No
Join Admited on Admited.Admited_No=Admited_Examine.Admited_No
where Examine.Patient_No =@Patient_No)
BEGIN
UPDATE Admited
SET Admited.Date_of_Discharge=(GETDATE())
from Examine
join Admited_Examine on Admited_Examine.Examine_No =Examine.Examine_No
Join Admited on Admited.Admited_No=Admited_Examine.Admited_No
where Examine.Patient_No = @Patient_No
END
```

```
select * from ViewAdmitedPatients
```

100 %

Results | Messages

	Admited_...	Date_of_Admiss...	Date_of_Discha...	Initial_Condition	Examine_...	Patient_...	Room_.
1	1	2017-01-10	NULL	Left Kidney not well	5	PT005	R0004

```
exec DoPayment 'PT005','Cash'
```

```
select * from ViewAdmitedPatients
```

100 %

Results | Messages

	Admited_...	Date_of_Admiss...	Date_of_Discha...	Initial_Condition	Examine_...	Patient_...	Room_...
1	1	2017-01-10	2017-01-10	Left Kidney not well	5	PT005	R0004

- **ResetSampleData Stored Procedure**
  This will remove all the current data in the database and insert default sample data to the database.

```
CREATE PROCEDURE ResetSampleData
As
BEGIN

DELETE FROM Payment;
DELETE FROM Examine_Medicine;
DELETE FROM Examine_Testing;
DELETE FROM Examine_Treatment;
DELETE FROM Facility;
DELETE FROM Medicine;
DELETE FROM Treatment;
DELETE FROM Testing;
DELETE FROM Admited_Examine;
DELETE FROM Admited_Room;
DELETE FROM Advance_Payment;
DELETE FROM Operate;
DELETE FROM Admited;
DELETE FROM Room;
DELETE FROM Operation_Theatre;
DELETE FROM Operation;
DELETE FROM Examine;
DELETE FROM Nurse;
DELETE FROM Other;
DELETE FROM Patient;
DELETE FROM Doctor;
DELETE FROM Staff;
DELETE FROM Attendance;
DELETE FROM Department;
DELETE FROM Staff_Contact;
DELETE FROM Patient_Contact;

INSERT INTO Department VALUES('D001','Orthopedic','B1 groundfloor');
INSERT INTO Department VALUES('D002','Pathology','B1 secondfloor');
INSERT INTO Department VALUES('D003',' Emergency','B2 groundfloor');
INSERT INTO Department VALUES('D004',' Dental','B2 thirdfloor');
INSERT INTO Department VALUES('D005',' Gynecology','B1 groundfloor');
INSERT INTO Department VALUES('D006',' Anesthetics','B1 firstfloor');
INSERT INTO Department VALUES('D007','I.C.U','B3 groundfloor');
INSERT INTO Department VALUES('D008',' Blood Bank','B1 basement');
INSERT INTO Department VALUES('D009','Operation Theater','B1
groundfloor');
INSERT INTO Department VALUES('D010','Laboratory','B3 basement');
INSERT INTO Department VALUES('D011','M.R.I','B2 groundfloor');
INSERT INTO Department VALUES('D012','Neurology','B2 basement');
INSERT INTO Department VALUES('D013','Cardiology','B3 groundfloor');
INSERT INTO Department VALUES('D014','Cancer Department','B2 thirdfloor');
INSERT INTO Department VALUES('D015','Corpse','B3 basement');
```

```
SET IDENTITY_INSERT Facility ON
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(1
,'Healthcare','D001');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(2
,'Laser filling','D004');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(3
,'Pharmacies','D001');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(4
,'Drug Stores','D010');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(5
,'Medical lab','D010');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(6
,'Cafetaria','D001');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(7
,'Cafetaria','D003');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(8
,'Cafetaria','D007');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(9
,'radiotherapy','D014');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(10
,'CT scanner','D012');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(11
,'transfusion','D008');
INSERT INTO Facility(Facility_No ,Facility_Name ,Department_No) VALUES(12
,'hybrid theatre','D009');
SET IDENTITY_INSERT Facility OFF


INSERT INTO Room VALUES('R0001','G','Y','1000','D002');
INSERT INTO Room VALUES('R0002','G','Y','3000','D003');
INSERT INTO Room VALUES('R0003','P','Y','1500','D003');
INSERT INTO Room VALUES('R0004','P','N','750','D004');
INSERT INTO Room VALUES('R0005','P','Y','2500','D007');
INSERT INTO Room VALUES('R0006','G','N','1000','D007');
INSERT INTO Room VALUES('R0007','G','N','1000','D009');
INSERT INTO Room VALUES('R0008','G','Y','1000','D009');
INSERT INTO Room VALUES('R0009','G','N','1000','D013');
INSERT INTO Room VALUES('R0010','G','Y','3000','D014');


SET IDENTITY_INSERT Operation ON
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('1','Surgery','Breast','600000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('2','Surgery','Eye','100000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('3','Surgery','Neuro','1000000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('4','Surgery','Lung','1500000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('5','Surgery','Neck','500000');
```

```
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('6','Surgery','Spinal','300000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('7','Surgery','Gynecological','1500000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('8','Surgery','Thoracic','1500000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('9','Surgery','Cataract','1500000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('10','Surgery','Liver','1500000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('11','Surgery','Born','500000');
INSERT INTO Operation (Operation_No, Operation_Name, Type_of_Operation,
Operation_Charges) VALUES('12','Surgery','Kidney','600000');
SET IDENTITY_INSERT Operation OFF


INSERT INTO Operation_Theatre VALUES ('T0001','Labor Room');
INSERT INTO Operation_Theatre VALUES ('T0002','Orthopedic OT');
INSERT INTO Operation_Theatre VALUES ('T0003','Gynecology OT');
INSERT INTO Operation_Theatre VALUES ('T0004','General OT');
INSERT INTO Operation_Theatre VALUES ('T0005','Cardiac OT');
INSERT INTO Operation_Theatre VALUES ('T0006','Hybrid OT');
INSERT INTO Operation_Theatre VALUES ('T0007','Eye OT');
INSERT INTO Operation_Theatre VALUES ('T0008','Emergency OT');
INSERT INTO Operation_Theatre VALUES ('T0009','Chemotherapy OT');


SET IDENTITY_INSERT Treatment ON
INSERT INTO Treatment (Treatment_No ,Treatment_Name
,Treatment_Charges)VALUES(1,'physiotherophy','1000');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(2,'ice pack','900');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(3,'electrotherophy','4000');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(4,'heat theropy','1500');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(5,'Oxygen theropy','5000');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(6,'dry-powder inhaler','750');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(7,'fast neutron theropy','6000');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(8,'knee theropy','1500');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(9,'gane theropy','5000');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(10,'orthoprdic theropy','6000');
```

```
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES(11,'bed rest','1000');
INSERT INTO Treatment(Treatment_No ,Treatment_Name ,Treatment_Charges)
VALUES (12,'Blood Transfusion',1000)
SET IDENTITY_INSERT Treatment OFF

SET IDENTITY_INSERT Testing ON
 INSERT INTO Testing(Test_No,Test_Name,Test_Charges)
VALUES(1,'ECO','1500');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges)
VALUES(2,'Endoscopy','7500');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges)
VALUES(3,'ECG','750');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges)
VALUES(4,'EEG','1000');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges) VALUES(5,'X-
Ray','500');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges) VALUES(6,'CT
scan','7500');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges) VALUES(7,'MRI
scan','15000');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges) VALUES(8,'Blood
test','1250');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges) VALUES(9,'Urine
test','500');
  INSERT INTO Testing(Test_No,Test_Name,Test_Charges) VALUES(10,'Stool
test','2250');
SET IDENTITY_INSERT Testing OFF


execute InsertRDoc 'DR001','Kamal','Perera','58/D,Super
Market,Malabe','D001','Doctor of Medicine','2000','50000','2016-07-
15',0712345673
execute InsertRDoc 'DR002','Prasanna','Gunawardena','75/B,Main
Rd,Galle','D002','Doctor of Osteopathic Medicine','3000','50000','2015-11-
19',0779856348
execute InsertRDoc
'DR003','Kanthi','Abeywardhana','45,Akuregoda,Battaramulla','D003','Master
of Clinical Medicine','4000','50000','2015-10-29',075987456
execute InsertRDoc 'DR004','Upali','Gunasekara','25,Nugegoda
Rd,Kotte','D004','Master of Surgery','2000','50000','2015-01-
19',0712345468
execute InsertRDoc 'DR005','Madhawa','Fernando','79,Silva
Rd,Wattala','D005','Master of Science','2000','50000','2015-08-
05',0728058230
execute InsertRDoc 'DR006','Nishani','Dissanayaka','18/3,Pannipitiya
Rd,Kottawa','D006','Doctor of Philosophy','3000','50000','2015-03-
28',077987321
execute InsertRDoc 'DR007','Shanaka','Kularathna','120,Kasbawa
Rd,Horana','D007','Master of Medical Science','5000','50000','2016-01-
03',0770804693
```

```
execute InsertRDoc 'DR008','Tharindu','Perera','102/3,New Bus
Stand,Matara','D008','Special of Dermatology','3000','50000','2016-01-
02',0778958005
execute InsertRDoc 'DR009','Lalantha','Gamunu','138,Highlevel
Rd,Nugegoda','D013','Special of Cardiology','4000','50000','2015-12-
10',075145698
execute InsertRDoc 'DR010','Sujeewa','De Silva','40,Main
Rd,Borella','D010','Doctor of Dental Science','1000','50000','2016-09-
15',0112458695


execute InsertCDoc 'DC001','Vimal','Perera','14/2
Salmalmawatha,bandarawela','D001','Doctor of
Medicine','1000','30000','2016-07-15',0112457895
execute InsertCDoc 'DC002','Malith','Rajapaksha','50 River
Street,Anuradhapura','D007','Master of Medical
Science','1500','30000','2015-07-15',0710807865
execute InsertCDoc 'DC003','Shehan','Boomawalage','107,Bus Stand
Rd,Malabe','D003','Master of Clinical Medicine','2000','30000','2016-08-
15',0778956350
execute InsertCDoc
'DC004','Sadumini','Fernando','11,Thotagoda,Akmeemana','D004','Doctor of
Medicine','1500','30000','2015-09-17',0778596584
execute InsertCDoc 'DC005','Vishaka','Wetthasingha','45/A,Temple
Rd,Galle','D006','Doctor of Medicine','1500','30000','2015-10-
11',0714587656
execute InsertCDoc
'DC006','Janak','Wijesingha','408,Thalangama,Koswattha','D010','Doctor of
Dental Science','1000','30000','2015-06-05',0727896540
execute InsertCDoc 'DC007','Nisansala','Rathnayaka','76,Fonseka
Rd,Rajagiriya','D008','Special of Dermatology','2000','30000','2016-03-
15',0721597533
execute InsertCDoc 'DC008','Lasith','Wickramasingha','946,Rathnayaka
Rd,Kandy','D012','Special of Neurology','2000','30000','2016-03-
21',0750015681
execute InsertCDoc 'DC009','Kasun','Perera','52/C,Super Market
Rd,Ampara','D013','Special of Cardiology','1500','30000','2015-11-
05',0758645005
execute InsertCDoc 'DC010','Sihina','Fonseka','111/D,Campus
Rd,Malabe','D014','Master of Surgery','2000','30000','2016-12-
12',0759526821


execute InsertNurse 'N002','Laleen','Perera','102/2,Temple
Rd,Mathale','D001','LPN',0112789654
execute InsertNurse 'N003','Prabath','Ruberu','22,queens
Rd,Kandy','D002','CNA',0777509689
execute InsertNurse 'N004','Sampath','Gamage','44/2,Obahena
Rd,Madiwela','D003','CRNA',0789656210
execute InsertNurse
'N005','Malki','Munasingha','77,Halgahadeniya,Angoda','D004','LPN',0710568
974
```

```
execute InsertNurse 'N006','Helani','DeSilva','65,Main
Street,Dompe','D005','CNM',0776685006
execute InsertNurse 'N007','Shehani','Ranasingha','12/2,Malwattha
Rd,Peradeniya','D006','CNS',0786641152
execute InsertNurse 'N008','Yoman','Dissanayaka','10,Jawatte Rd,Colombo
05','D007','NP',0728058003
execute InsertNurse 'N009','Upul','Wijesingha','34,Bagawatthe
Rd,Wellawatthe','D008','CRNA',0710957895
execute InsertNurse 'N010','Nishani','Fonseka','70/A,main
Rd,Ampara','D009','RN',0752365894
execute InsertNurse 'N011','Maleesha','Perera','10,main
Rd,Palawatta','D010','LPN',07102030456


execute InsertAttendance 'A001','Lal','Dutugamuwa','102/2,Temple
Rd,Matara','D001','Full Time',0775681325
execute InsertAttendance 'A002','matin','Perera','100,Pahathkumbura
Rd,Hanwella','D002','Full Time',0773651200
execute InsertAttendance 'A003','Wimal','Wetthasingha','15/A,Yatigala
Rd,Kaduwela','D003','Full Time',0714689525
execute InsertAttendance 'A004','Sadun','Sooriyarachchi','122,Main
Street,Malabe','D004','Part Time',0712302020
execute InsertAttendance 'A005','Karuna','Subasingha','10,HighLevel
Rd,Nugegoda','D005','Part Time',0758746585
execute InsertAttendance 'A006','Wimala','Gamage','81,Abagaha
Junction,Katharagama','D006','Full Time',0781230265
execute InsertAttendance 'A007','Disna','Walisingha','50/3,Mirissa
Rd,Monaragala','D007','Part Time',0710203056
execute InsertAttendance
'A008','Gayan','Gunawardhena','32/4,Gatahatha,Avissawella','D008','Full
Time',0772320564
execute InsertAttendance
'A009','Gayani','Fonseka','2924,Stage3,Anuradhapura','D009','Part
Time',0785256465
execute InsertAttendance 'A010','Janitha','Wijesiri','45,First Cross
Street,Colombo7','D010','Part Time',0764682302



execute InsertPatient 'PT001','Isuri','Dasanayaka','F','162/2,Temple
Rd,Galle','1994-03-21','2016-12-12',0112459686
execute InsertPatient 'PT002','Asith','Disanayaka','M','302,Main
Rd,Galle','1988-06-05','2016-07-15',0779874662
execute InsertPatient 'PT003','Roshi','Fernando','F','18,Main
Street,Nittabuwa','1992-01-01','2015-04-16',0778965223
execute InsertPatient 'PT004','Nisal','Kulasiri','M','10,School
Rd,Kegalle','1989-08-11','2015-12-12',0112866771
execute InsertPatient 'PT005','Kumudu','Gamage','F','165/A,Old Batapotha
Rd,Palawatte','1986-02-01','2015-06-20',0714402003
execute InsertPatient 'PT006','Lasantha','Herath','M','111,Silva
Rd,Anuradhapura','1996-12-21','2016-03-28',0713214456
```

```
execute InsertPatient 'PT007','Charith','Fonseka','M','172/8,Temple
Rd,Kaleniya','1994-04-14','2016-08-12',0719986589
execute InsertPatient
'PT008','Nishan','Pinto','M','177,Makubura,Pannipitiya','1994-05-
18','2015-09-12',0759685456
execute InsertPatient
'PT009','Madhu','Hettiarachchi','F','308,Annasiwattha Rd,Kottawa','1991-
12-07','2016-10-21',0112529656


execute InsertOther '0001','Isuri','Dasanayaka','11/B,ST joshep
lane,chilaw','D001','Labour',0112866789
execute InsertOther '0002','Madawa','Jayasingha','81,Salmal
mawatha,Bandarawela','D002','Driver',0754596356
execute InsertOther '0003','Tina','Botheju','78/15,Samagi
mawatha,Dehiwala','D003','Cleaner',0772012365
execute InsertOther
'0004','Menaka','Peris','18/1,Wickramasinghapura,Battaramulla','D004','Ass
istant',0778754569
execute InsertOther
'0005','Kusuma','Perera','11/3,Delkada,Nugegoda','D005','Cleaner',07141219
63
execute InsertOther '0006','Mala','Gunawardhana','486,Waliwita
Rd,Malabe','D006','Labour',0719850056
execute InsertOther '0007','Ganesh','Livera','149,Gunasekara
Rd,Malabe','D007','Driver',0751122330
execute InsertOther '0008','Samanmali','Dissanayaka','12,Tample
Rd,Weerawila','D008','Cleaner',0759685741
execute InsertOther
'0009','Sathsarani','Ranaweera','17/5,Morakatiya,Pannipitiya','D009','Labo
ur',0779162382
execute InsertOther
'0010','Gunasiri','Rathnasekara','102,Katubadda,Moratuwa','D010','Driver',
0777959398


SET IDENTITY_INSERT Examine ON
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (1,'Fever','2016-12-12','PT001','DR001',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (2,'Dengue','2016-07-15','PT002','DR001',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (3,'Lupus','2015-04-16','PT003','DR009',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (4,'Wheeze','2015-12-12','PT004','DR001',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (5,'Stroke','2015-06-20','PT005','DR010',0);
```

```
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (6,'Meningitis','2016-03-28','PT006','DR010',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (7,'Appendicitis','2016-08-12','PT007','DC004',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (8,'Heart-Attack','2015-09-12','PT008','DR005',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (9,'Breast Cancer','2016-09-21','PT009','DC010',0);
INSERT INTO
Examine(Examine_No,Diagnosis,Date_of_Checkup,Patient_No,Staff_No,Is_Payed)
VALUES (10,'Slip Disk','2015-11-26','PT009','DR002',0);
SET IDENTITY_INSERT Examine OFF


SET IDENTITY_INSERT Examine_Treatment ON
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(1,4,'Fully Completed','Do not
exposure to dust',0,6);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(2,1,'Completed','Do not touch
cool water',0,11);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(3,2,'Half Completed','Eat
healthy foods',0,11);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(4,5,'Completed','Do not raise
heavy things',0,1);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(5,5,'Completed','Do not raise
heavy things',0,2);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(6,4,'Completed','Do not
exposure to dust',0,5);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(7,9,'Half Completed','Eat
healthy foods',0,3);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(8,9,'Half Completed','Eat
healthy foods',0,9);
```

```
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(9,6,'Fully Completed','Do not
exposure to dust',0,7);
 INSERT INTO
Examine_Treatment(Examine_Treatment_No,Examine_No,Status_of_Treatment,Trea
tment_Advice,Is_Payed,Treatment_No) VALUES(10,10,'Fully Completed','Do not
raise heavy things',0,1);
SET IDENTITY_INSERT Examine_Treatment OFF

SET IDENTITY_INSERT Examine_Testing ON
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(1,0,'',8,2);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(2,0,'',6,5);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(3,0,'',8,3);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(4,0,'',1,8);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(5,0,'',7,6);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(6,0,'',8,1);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(7,0,'',3,8);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(8,0,'',2,7);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(9,0,'',7,9);
INSERT INTO
Examine_Testing(Examine_Testing_No,Is_Payed,Date_of_Test,Test_No,Examine_N
o) VALUES(10,0,'',7,10);
SET IDENTITY_INSERT Examine_Testing OFF

INSERT INTO Medicine VALUES('000001','Penadol','900mg','2');
INSERT INTO Medicine VALUES('000002','Citalopram','500mg','10');
INSERT INTO Medicine VALUES('000003','Diclofenac','500mg','20');
INSERT INTO Medicine VALUES('000004','Co-codamol','500mg','10');
INSERT INTO Medicine VALUES('000005','Prednisolone','500mg','7');
INSERT INTO Medicine VALUES('000006','Omeprazole','500mg','90');
INSERT INTO Medicine VALUES('000007','Naproxen','500mg','55');
INSERT INTO Medicine VALUES('000008','Ramipril','500mg','20');
INSERT INTO Medicine VALUES('000009','Metronidazole','500mg','60');
```

```
INSERT INTO Medicine VALUES('000010','Fluoxetine','500mg','55');
SET IDENTITY_INSERT Examine_Medicine ON
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(1,0,'',20,'000001',1);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(2,0,'',80,'000002',5);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(3,0,'',32,'000003',6);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(4,0,'',40,'000004',10);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(5,0,'',25,'000005',6);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(6,0,'',45,'000006',7);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(7,0,'',30,'000007',6);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(8,0,'',22,'000008',8);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(9,0,'',33,'000009',2);
INSERT INTO
Examine_Medicine(Examine_Medicine_No,Is_Payed,Date,QTY,Medicine_Code,Exami
ne_No) VALUES(10,0,'',24,'000010',6);
SET IDENTITY_INSERT Examine_Medicine OFF

INSERT INTO Staff_Contact VALUES('DR001',0770123547);
INSERT INTO Staff_Contact VALUES('DR002',0712364789);
INSERT INTO Staff_Contact VALUES('DC003',0715636547);
INSERT INTO Staff_Contact VALUES('DC004',0752155498);

exec AdmitPatient 5,'Left Kidney not well','R0004','Cash',2500;
INSERT INTO Operate
(Is_Payed,Condition_Before,Condition_After,Operation_No,Staff_No,Theatre_N
o,Admited_No,Date_of_Operation)
VALUES (0,'L Kidney !well','Kidney Well',12,'DR001','T0004',1,'2017-01-
08');
INSERT INTO Operate
(Is_Payed,Condition_Before,Condition_After,Operation_No,Staff_No,Theatre_N
o,Admited_No,Date_of_Operation)
VALUES (0,'L eye !good','Both eyes good',2,'DR002','T0004',1,'2017-01-
08');

END
```

- **GenarateInvoice Stored Procedure**
  This will generate all the expenses of a patient and if patient is admitted then his advance payment will substract from the Total and finally display a Invoice

```
CREATE PROCEDURE GenarateInvoice @Patient_Id VARCHAR (5)
AS
DECLARE @Total MONEY
DECLARE @Examine_No INT
DECLARE @TotalExamine MONEY
DECLARE @TotalMedicine MONEY
DECLARE @TotalTreatment MONEY
DECLARE @TotalTesting MONEY
DECLARE @RoomChargePerDay MONEY
DECLARE @TotalRoom MONEY
DECLARE @TotalOperation MONEY
DECLARE @Advance MONEY
SET @Total=(0)
SET @TotalExamine=(0)
SET @TotalMedicine = (0)
SET @TotalTreatment = (0)
SET @TotalTesting = (0)
SET @RoomChargePerDay = (0)
SET @TotalRoom = (0)
SET @TotalOperation = (0)
SET @Advance = (0)


-- Find all the examine charges
SET @TotalExamine = (SELECT SUM (Doctor.Doctor_Charge) FROM Examine JOIN
Doctor ON Examine.Staff_No=Doctor.Staff_No WHERE Patient_No=@Patient_Id
AND Is_Payed=0)
--
-- Find Total room Charges Operate Charges
IF EXISTS (select DISTINCT  Admited.Date_of_Admission from Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null)
BEGIN

DECLARE @days INT
SET @days = (
select DISTINCT DATEDIFF(day,Admited.Date_of_Admission,GETDATE()) from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
JOIN Room ON Admited_Room.Room_No=Room.Room_No  where Examine.Patient_No
=@Patient_Id
AND Admited.Date_of_Discharge is null)
```

```
IF (@days = 0)
BEGIN
SET @days = (1)
END


SET @RoomChargePerDay = (select DISTINCT  Room.Charges_per_Day from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
JOIN Room ON Admited_Room.Room_No=Room.Room_No  where Examine.Patient_No
=@Patient_Id
AND Admited.Date_of_Discharge is null AND Admited_Room.Is_Payed=0)

SET @TotalRoom = (@days*@RoomChargePerDay)

SET @TotalOperation =(select  SUM(Operation.Operation_Charges) from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Operate on Admited.Admited_No=Operate.Admited_No
JOIN Operation on Operate.Operation_No=Operation.Operation_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null AND Operate.Is_Payed = 0)

IF EXISTS (select  * from Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null AND Admited_Room.Is_Payed=0)
BEGIN

SET @Advance =(select DISTINCT Advance_Payment.Payment_Made from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Advance_Payment ON Admited.Admited_No=Advance_Payment.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null)

SET @Advance = (-@Advance)
END
END


--
 DECLARE db_cursor CURSOR FOR
  SELECT DISTINCT Examine_No FROM Examine WHERE Patient_No=@Patient_Id
OPEN db_cursor
FETCH NEXT FROM db_cursor INTO @Examine_No
```

```
--Find All medicine charges
DECLARE @Medicine MONEY
SET @Medicine =(SELECT SUM(Medicine.Price*Examine_Medicine.QTY) FROM
Examine_Medicine JOIN Medicine ON
Examine_Medicine.Medicine_Code=Medicine.Medicine_Code WHERE Examine_No =
@Examine_No AND Is_Payed=0)
IF (@Medicine IS NOT NULL)
BEGIN
SET @TotalMedicine = (@TotalMedicine + @Medicine )
END
--
--Find All Treatment charges
DECLARE @Treatment MONEY
SET @Treatment = (select SUM(Treatment.Treatment_Charges) from
Examine_Treatment  JOIN Treatment ON
Examine_Treatment.Treatment_No=Treatment.Treatment_No WHERE
Examine_No=@Examine_No AND Is_Payed=0 )
IF (@Treatment IS NOT NULL)
BEGIN
SET @TotalTreatment =(@TotalTreatment + @Treatment)
END
--

--Find All Testing Charges
DECLARE @Testing MONEY
SET @Testing  = (SELECT SUM(Test_Charges) FROM Examine_Testing JOIN
Testing ON Examine_Testing.Test_No=Testing.Test_No WHERE
Examine_Testing.Examine_No=@Examine_No AND Is_Payed=0 )
IF (@Testing  IS NOT NULL)
BEGIN
SET @TotalTesting =(@TotalTesting + @Testing)
END
--

WHILE @@FETCH_STATUS = 0
BEGIN
FETCH NEXT FROM db_cursor INTO @Examine_No
END
CLOSE db_cursor
DEALLOCATE db_cursor
SET
@Total=(@TotalExamine+@TotalMedicine+@TotalTreatment+@TotalTesting+@TotalR
oom+@TotalOperation)

PRINT ('Total Examine Charge   = '+ CONVERT (VARCHAR (20),@TotalExamine) )
PRINT ('Total Medicine Charge  = '+ CONVERT (VARCHAR (20),@TotalMedicine)
)
PRINT ('Total Treatment Charge = '+ CONVERT (VARCHAR (20),@TotalTreatment)
)
PRINT ('Total Testing Charge   = '+ CONVERT (VARCHAR (20),@TotalTesting) )
PRINT ('Total Room Charge      = '+ CONVERT (VARCHAR (20),@TotalRoom) )
```

```
PRINT ('Total Operation Charge = '+ CONVERT (VARCHAR (20),@TotalOperation)
)
PRINT ('-----------------------------------------------------------------
-' )
PRINT ('Subtotal                = '+ CONVERT (VARCHAR (20),@Total) )
PRINT ('-----------------------------------------------------------------
-' )
PRINT ('Advance Payment         = '+ CONVERT (VARCHAR (20),@Advance) )
PRINT ('-----------------------------------------------------------------
-' )
PRINT ('Amount Payable          = '+ CONVERT (VARCHAR (20),@Total+@Advance)
)
PRINT
('_________________________________________________________________' )
PRINT ('-----------------------------------------------------------------
-' )
GO
```

```
1  exec GenarateInvoice 'PT001'
2
```

100 %

Messages

```
Total Examine Charge   = 2000.00
Total Medicine Charge  = 40.00
Total Treatment Charge = 1000.00
Total Testing Charge   = 1250.00
Total Room Charge      = 0.00
Total Operation Charge = 0.00
-----------------------------------------------------------------
Subtotal               = 4290.00
-----------------------------------------------------------------
Advance Payment        = 0.00
-----------------------------------------------------------------
Amount Payable         = 4290.00
_________________________________________________________________
-----------------------------------------------------------------
```

```
exec GenarateInvoice 'PT005'

100 %
Messages
Total Examine Charge   = 1000.00
Total Medicine Charge  = 800.00
Total Treatment Charge = 1900.00
Total Testing Charge   = 7500.00
Total Room Charge      = 750.00
Total Operation Charge = 700000.00
-------------------------------------------------------------------
Subtotal               = 711950.00
-------------------------------------------------------------------
Advance Payment        = -2500.00
-------------------------------------------------------------------
Amount Payable         = 709450.00
___________________________________________________________________
-------------------------------------------------------------------
```

- **DoPayment Stored Procedure**
  This will generate the Total expenses of a patient and payment record will be inserted to the **Payment** Table and all the **Is_Payed** columns will be updated.

```
CREATE PROCEDURE DoPayment @Patient_Id VARCHAR (5), @Mode_of_Payment
VARCHAR (10)
AS
DECLARE @Total MONEY
DECLARE @Examine_No INT
DECLARE @TotalExamine MONEY
DECLARE @TotalMedicine MONEY
DECLARE @TotalTreatment MONEY
DECLARE @TotalTesting MONEY
DECLARE @RoomChargePerDay MONEY
DECLARE @TotalRoom MONEY
DECLARE @TotalOperation MONEY
DECLARE @Advance MONEY
SET @Total=(0)
SET @TotalExamine=(0)
SET @TotalMedicine = (0)
SET @TotalTreatment = (0)
SET @TotalTesting = (0)
SET @RoomChargePerDay = (0)
SET @TotalRoom = (0)
SET @TotalOperation = (0)
SET @Advance = (0)
```

```
-- Find all the examine charges
SET @TotalExamine = (SELECT SUM (Doctor.Doctor_Charge) FROM Examine JOIN
Doctor ON Examine.Staff_No=Doctor.Staff_No WHERE Patient_No=@Patient_Id
AND Is_Payed=0)
--
-- Find Total room Charges Operate Charges
IF EXISTS (select DISTINCT  Admited.Date_of_Admission from Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null)
BEGIN

DECLARE @days INT
SET @days = (
select DISTINCT DATEDIFF(day,Admited.Date_of_Admission,GETDATE()) from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
JOIN Room ON Admited_Room.Room_No=Room.Room_No  where Examine.Patient_No
=@Patient_Id
AND Admited.Date_of_Discharge is null)
IF (@days = 0)
BEGIN
SET @days = (1)
END


SET @RoomChargePerDay = (select DISTINCT  Room.Charges_per_Day from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
JOIN Room ON Admited_Room.Room_No=Room.Room_No  where Examine.Patient_No
=@Patient_Id
AND Admited.Date_of_Discharge is null AND Admited_Room.Is_Payed=0)

SET @TotalRoom = (@days*@RoomChargePerDay)

SET @TotalOperation =(select  SUM(Operation.Operation_Charges) from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Operate on Admited.Admited_No=Operate.Admited_No
JOIN Operation on Operate.Operation_No=Operation.Operation_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null AND Operate.Is_Payed = 0)

IF EXISTS (select  * from Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
```

```
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null AND Admited_Room.Is_Payed=0)
BEGIN

SET @Advance =(select DISTINCT Advance_Payment.Payment_Made from
Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Advance_Payment ON Admited.Admited_No=Advance_Payment.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null)

SET @Advance = (-@Advance)
END

END


--
 DECLARE db_cursor CURSOR FOR
  SELECT DISTINCT Examine_No FROM Examine WHERE Patient_No=@Patient_Id
OPEN db_cursor
FETCH NEXT FROM db_cursor INTO @Examine_No

--Find All medicine charges
DECLARE @Medicine MONEY
SET @Medicine =(SELECT SUM(Medicine.Price*Examine_Medicine.QTY) FROM
Examine_Medicine JOIN Medicine ON
Examine_Medicine.Medicine_Code=Medicine.Medicine_Code WHERE Examine_No =
@Examine_No AND Is_Payed=0)
IF (@Medicine IS NOT NULL)
BEGIN
SET @TotalMedicine = (@TotalMedicine + @Medicine )
END
--
--Find All Treatment charges
DECLARE @Treatment MONEY
SET @Treatment = (select SUM(Treatment.Treatment_Charges) from
Examine_Treatment  JOIN Treatment ON
Examine_Treatment.Treatment_No=Treatment.Treatment_No WHERE
Examine_No=@Examine_No AND Is_Payed=0 )
IF (@Treatment IS NOT NULL)
BEGIN
SET @TotalTreatment =(@TotalTreatment + @Treatment)
END
--
```

```
--Find All Testing Charges
DECLARE @Testing MONEY
SET @Testing  = (SELECT SUM(Test_Charges) FROM Examine_Testing JOIN
Testing ON Examine_Testing.Test_No=Testing.Test_No WHERE
Examine_Testing.Examine_No=@Examine_No AND Is_Payed=0 )
IF (@Testing  IS NOT NULL)
BEGIN
SET @TotalTesting =(@TotalTesting + @Testing)
END
--

WHILE @@FETCH_STATUS = 0
BEGIN
FETCH NEXT FROM db_cursor INTO @Examine_No
END
CLOSE db_cursor
DEALLOCATE db_cursor
SET
@Total=(@TotalExamine+@TotalMedicine+@TotalTreatment+@TotalTesting+@TotalR
oom+@TotalOperation)

PRINT ('Total Examine Charge   = '+ CONVERT (VARCHAR (20),@TotalExamine) )
PRINT ('Total Medicine Charge  = '+ CONVERT (VARCHAR (20),@TotalMedicine)
)
PRINT ('Total Treatment Charge = '+ CONVERT (VARCHAR (20),@TotalTreatment)
)
PRINT ('Total Testing Charge   = '+ CONVERT (VARCHAR (20),@TotalTesting) )
PRINT ('Total Room Charge      = '+ CONVERT (VARCHAR (20),@TotalRoom) )
PRINT ('Total Operation Charge = '+ CONVERT (VARCHAR (20),@TotalOperation)
)
PRINT ('-----------------------------------------------------------------
-' )
PRINT ('Subtotal               = '+ CONVERT (VARCHAR (20),@Total) )
PRINT ('-----------------------------------------------------------------
-' )
PRINT ('Advance Payment        = '+ CONVERT (VARCHAR (20),@Advance) )
PRINT ('-----------------------------------------------------------------
-' )
PRINT ('Amount Payable         = '+ CONVERT (VARCHAR (20),@Total+@Advance)
)
PRINT
('_________________________________________________________________' )
PRINT ('-----------------------------------------------------------------
-' )

INSERT INTO Payment
(Mode_of_Payment,Date_of_Payment,Payment_Made,Patient_No) VALUES
(@Mode_of_Payment,(GETDATE()),@Total+@Advance,@Patient_Id)

PRINT ('Payment Accepted Successfully !!!' )

--update examine -> is_payed
```

```
UPDATE Examine
SET Examine.Is_Payed=1
FROM Examine JOIN Doctor ON Examine.Staff_No=Doctor.Staff_No
WHERE Patient_No=@Patient_Id AND Is_Payed=0

--update Admited_Room -> is_payed
UPDATE Admited_Room
SET Admited_Room.Is_Payed=1
FROM Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Admited_Room ON Admited.Admited_No = Admited_Room.Admited_No
JOIN Room ON Admited_Room.Room_No=Room.Room_No  where Examine.Patient_No
=@Patient_Id
AND Admited.Date_of_Discharge is null AND Admited_Room.Is_Payed=0

--update Operate -> is_payed
UPDATE Operate
SET Operate.Is_Payed=1
FROM Admited_Examine
JOIN Examine on Admited_Examine.Examine_No=Examine.Examine_No
JOIN Admited on Admited.Admited_No=Admited_Examine.Admited_No
JOIN Operate on Admited.Admited_No=Operate.Admited_No
where Examine.Patient_No =@Patient_Id
AND Admited.Date_of_Discharge is null AND Operate.Is_Payed = 0

--update Examine_Treatment -> is_payed
UPDATE Examine_Treatment
SET Examine_Treatment.Is_Payed=1
FROM Examine_Treatment
JOIN Treatment ON Examine_Treatment.Treatment_No=Treatment.Treatment_No
JOIN Examine ON Examine.Examine_No=Examine_Treatment.Examine_No
WHERE Examine.Patient_No=@Patient_Id AND Examine_Treatment.Is_Payed=0

--UPDATE Examine_Medicine -> is_payed
UPDATE Examine_Medicine
SET Examine_Medicine.Is_Payed=1
FROM Examine_Medicine
JOIN Medicine ON  Examine_Medicine.Medicine_Code=Medicine.Medicine_Code
JOIN Examine ON Examine.Examine_No=Examine_Medicine.Examine_No
WHERE Examine.Patient_No = @Patient_Id AND Examine_Medicine.Is_Payed=0

--UPDATE Examine_Testing -> is_payed
UPDATE Examine_Testing
SET Examine_Testing.Is_Payed=1
FROM Examine_Testing
JOIN Testing ON Examine_Testing.Test_No=Testing.Test_No
JOIN Examine ON Examine.Examine_No= Examine_Testing.Examine_No
WHERE Examine.Patient_No=@Patient_Id AND Examine_Testing.Is_Payed=0
```

```
exec DoPayment 'PT005','Cash'

100 %
Messages
Total Examine Charge   = 1000.00
Total Medicine Charge  = 800.00
Total Treatment Charge = 1900.00
Total Testing Charge   = 7500.00
Total Room Charge      = 750.00
Total Operation Charge = 700000.00
-----------------------------------------------------------------
Subtotal               = 711950.00
-----------------------------------------------------------------
Advance Payment        = -2500.00
-----------------------------------------------------------------
Amount Payable         = 709450.00
_________________________________________________________________
-----------------------------------------------------------------

(1 row(s) affected)

(1 row(s) affected)

(1 row(s) affected)
Payment Accepted Successfully !!!
```

Lets generate invoice again for payed patient

```
exec GenarateInvoice 'PT005'

100 %
Messages

Total Medicine Charge  = 0.00
Total Treatment Charge = 0.00
Total Testing Charge   = 0.00
Total Room Charge      = 0.00
Total Operation Charge = 0.00
-----------------------------------------------------------------

-----------------------------------------------------------------
Advance Payment        = 0.00
-----------------------------------------------------------------

_________________________________________________________________
-----------------------------------------------------------------
```

```
1 select * from Payment
2
```

100 %

Results | Messages

	Payment_...	Mode_of_Paym...	Date_of_Paym...	Payment_Ma...	Patient_...
1	3	Cash	2017-01-10	709450.00	PT005

Work Load Matrix

Index Number	ER/EER Diagram	Relational Mapping, Data Normalisation, Data Dictionary	Tables, Constraints	Views, Triggers	Stored Procedures, User Defined Functions
10569203	X	X	X	X	X
10569217	X	X	X	X	X
10569206	X	X			X
10569058	X	X			X
10569137	X	X			X

Peer Evaluation Form

(1=strongly disagree; 2=disagree; 3=agree; 4=strongly agree)

Evaluation Criteria	**10569203**	**10569217**	**10569206**	**10569058**	**10569137**
Attends group meetings regularly and arrives on time.	04	04	04	04	04
Contributes meaningfully to group discussions.	04	04	04	04	04
Completes the tasks on time.	03	03	03	03	03
Prepares work in a quality manner.	04	04	03	03	03
Contributes significantly to the success of the project in a cooperative and supportive attitude.	04	04	03	03	03
TOTALS	19	19	17	17	17

Future Implementation

We plan to extend the database to calculate salary for Staff members (doctors, nurses, attendants, and other staff). And also hope to enhance this hospital management system by including stock details of medicine.

CONCLUTION

The Hospital Management System is an automated system that is used to maintain records about patients, doctors and other staff, special treatments and operations conducted by the hospital, departments, rooms, medicine etc. It also maintains records of details about payments for medicine, operations, hospital and doctor charges etc. This system back out details about misplaced, data duplicated or which are not secure. The system helps to manage records in conveniently, effectively, timely manner.

REFERENCES

- https://msdn.microsoft.com/en-us/library
- www.w3schools.com/**sql**/