

Sri Lanka Institute of Information Technology



Final Group project

MLB_05.02_01

Textile and Garment Management System

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Information system and data modeling – IT1090

B.Sc. (Hons) in Information Technology

Group Details

Group Number: MLB_05.02_01

Project Title: Textile and garment management system

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INTRODUCTION

Textile and garment apparel industry has been a profitable industry so far when we compared with other industry in our country. Each year There are so many people getting employment by this industry. According to the research, garment industry in our country has grown to become the largest single source of export revenue. In sense, a lot of workers have been worked for each factory.

Therefore, keep an order, to have them data in a cabinet way is not possible because that way too hard to retrieve, upload, and manipulate data of each an everybody who interact with it. In addition, if we have them data in this manner, there is a possibility here that data may be destroyed by the physical threats. Because of this, we have intended to create a management system which can be used to maintain all the data who are interact with the factory. The system we created that can easily manage the worker's information, material report generation, evaluate material import and export details, production line control, in good manner and it helps to retrieve, retain, manipulate, data when needed action occur. In this report, we reveled about this system how it is interacted with users and how it is being satisfied the entire industrial management as a single system.

HYPOTHETICAL SCENARIO

In textile and garment management system there are many people interact with it. We have been categorized them by the manner which task should be done by each of them.

Assistant manager, system analyst, Customer, supervisor, Mechanical engineer, Distributor and Material supplier are the persons in the each of category. It can be extended for the needs of factory. We considered some security instance when the system was being built by the team, it was, that the system analyst only can make the change on the database. That means the tasks of database update, delete, retrieve on information only can be possible by the system analyst. We are going to clearly illustrate the allocated task which is being done by the categorized persons. First, we start it from the staff. Staff can enter to the system by log-in. But he/she must be registered to the system. when staffs enter by log-in, system validate them, then if staffs' detail does not match, it sends a request to analyst to register himself. When staffs arrive to the factory for work, they must enter them attendance. Then system save them details on database. Staffs can also view them salary report. Next, supervisors are the major second part. he/she manages the assign distribution task, manages staff's workflow, reporting about the machinery issues, reporting about machinery cost and generate issues report, using this system.

Next, engineer phase, they must be registered. After valid registration, they can view their salary details on the database and collect the report of machinery's issues using this system. Next, Distributors, they can enter the system by log-in. They can get the distribution task of each one and can give the report of completed task to the system. It stores all the data of distributors in order of their I. D's. Next, Material suppliers must be registered to the system. They must perform some tasks that are the input given material, evaluate stocks, generate material cost report, check input given material, generate material cost report, enter import cost. Because of this information, system only can generate report about how much cost it takes for month.

After that, the given information of material suppliers is validated by the supervisor whether the details are correct or not. If any changes that need to be updated, supervisor send request to supplier for update correct statements. In customer phase, customer registration is the part of the system. Customer can place order through the phone or website. If he/she going to place the order through website, first he/she register themselves to the website. For a successful registration, customer must give some information to the system. After registration customer can view and make order of their preferred products. They make payment by two ways. First, if they prefer to pay money in online, they can choose preferred online payment option. Second, if they prefer to pay through bank transfer, they can choose direct bank transfer option. After the payment made, it will be checked by the analyst. Then analyst will generate payment receipt for illustrate that transaction has been done successfully. Then

customer can be received the receipt of ordered product by e-mail. System stores customer's data in end-to-end encrypted method. In system analyst phase, there some major tasks are being done by them. That are, register the customer, register the staffs, register the distributor, register the supplier, and retrain, retrieve, update details of the registered workers for system. Finally, Assistant manager can perform these tasks with help of these process. that are generate monthly sales report, generate monthly assign distribution task, Generate monthly machinery cost report. In order, to achieve the main goal of the system is, depend on induvial activities on system of participant who are interact with it.

MAIN REQUIREMENT ANALYSE

Staff:

User requirement

- ✓ Users Access the system by log-in.
- ✓ Users enter attendance.
- ✓ Users view salary report.
- ✓ User can have the access to edit profile.

System requirement

- ✓ System should Shows the screen.
- ✓ System should ask the log-in
- ✓ If system finds error on while log-in, it should ask to re-enter log-in details again.
- ✓ System should Validate user log-in details.
- ✓ System should get the input from the user.
- ✓ System gives the access to user for edit profile.

Supervisor:

User requirement

- ✓ Supervisors Access the system by log-in.
- ✓ Supervisor can assign task report by using this system.
- ✓ Supervisor can Enter machinery's problem.
- ✓ Supervisor can Enter machinery's cost.
- ✓ Supervisor Generate problem report.

System requirement

- ✓ System should validate log-in details.
- ✓ System should ask to re-enter log-in details again when errors are detected.
- ✓ System should be precaution for unauthorize access.
- ✓ System should get input from supervisor.
- ✓ System can give the access for view the database.

Engineer:

User requirement

- ✓ Engineer can access the system by log-in.
- ✓ Engineer can view and edit the profile.
- ✓ Engineer can do updates on database.
- ✓ Engineer can collect machinery's problem report.

System requirement

- ✓ System should give access after log-in.
- ✓ System should ask to re-enter log-in details if any errors are found while validation.
- ✓ System should give access to upload.

Distributor:

User requirement

- ✓ Distributor can access the system by log-in.
- ✓ Distributor can view and update profile.
- ✓ Distributor can collect the distribution task from the system,
- ✓ Distributor also can upload the tasks which are done.

System requirement

- ✓ System should give the access after the log-in.
- ✓ System should validate them when profile updating or information updating occur.
- ✓ System allow access to collect reports.
- ✓ System should act error detect while task reports are uploading.

Material supplier:

User requirements

- ✓ Material supplier can access the system by log-in.
- ✓ Material supplier can access the database to upload tasks.
- ✓ Material supplier can input given material details to database.
- ✓ Material supplier can evaluate the stock details.
- ✓ Material supplier can check input given material details.
- ✓ Material supplier can enter import cost to the database.

System requirements

- ✓ System should give access after log-in.
- ✓ System should validate material supplier's details before access the database.

System analyst:

User requirement

- ✓ System analyst can update the system.
- ✓ Update material details.
- ✓ Generate report.
- ✓ Register all workers to system
- ✓ Confirm orders of customers.
- ✓ System analyst can retrieve, retain, upload details of all workers data on database

System requirements

- ✓ System should show updates that need to be updated.
- ✓ System should show warning that any restrict access has been done.
- ✓ System should not be malfunction.

Assistant Manager:

User requirement

- ✓ Assistant manager can get monthly distribution.
- ✓ Assistant manager can get customer report.
- ✓ Generate monthly sales report.
- ✓ Generate monthly machinery's defective report.
- ✓ Generate monthly import cost report.
- ✓ Generate monthly system maintaining cost.
- ✓

System requirement

- ✓ system should perform the task after the right validation.
- ✓ System should display accurate information.

DATA REQUIREMENT ANALYSE

Staff:

- ✓ Staff id
- ✓ Staff name
- ✓ Staff date of birth
- ✓ Staff phone number
- ✓ Staff N.I.C

Production line:

- ✓ Production I.D.
- ✓ Production line name.

Supervisor:

- ✓ Supervisor I.D.
- ✓ Supervisor name.
- ✓ Supervisor age.
- ✓ Supervisor D.O.B.
- ✓ Supervisor phone number

Engineer:

- ✓ Engineer I.D.
- ✓ Engineer name.
- ✓ Engineer age.
- ✓ Engineer D.O.B.

Material supplier:

- ✓ Material supplier I.D.
- ✓ Material supplier name.
- ✓ Material supplier phone number.

Material:

- ✓ Material I.D.
- ✓ Material name.

System analyst:

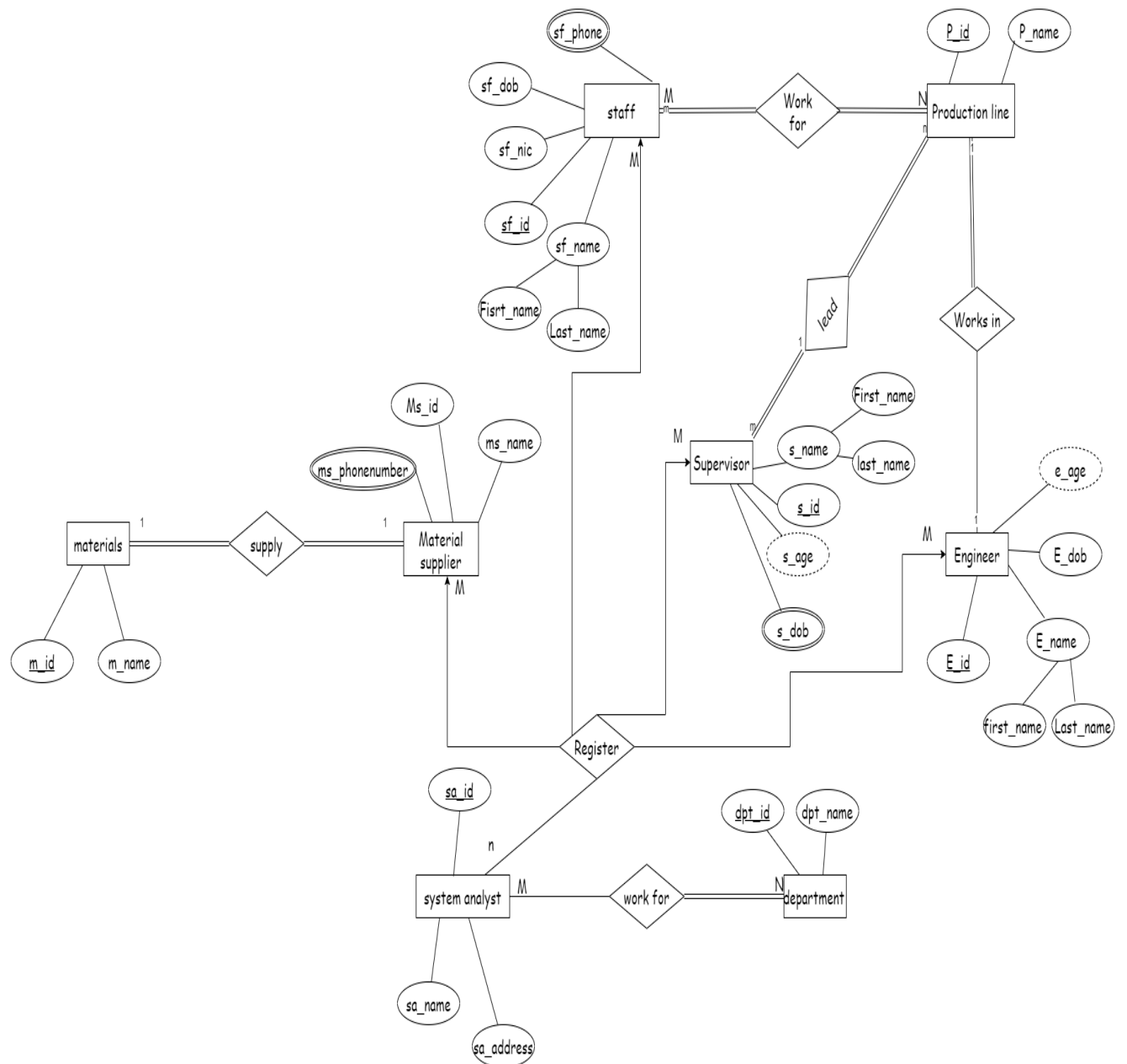
- ✓ System analyst I.D.
- ✓ System analyst name.
- ✓ System analyst address
- ✓ System analyst department I.D.

Department:

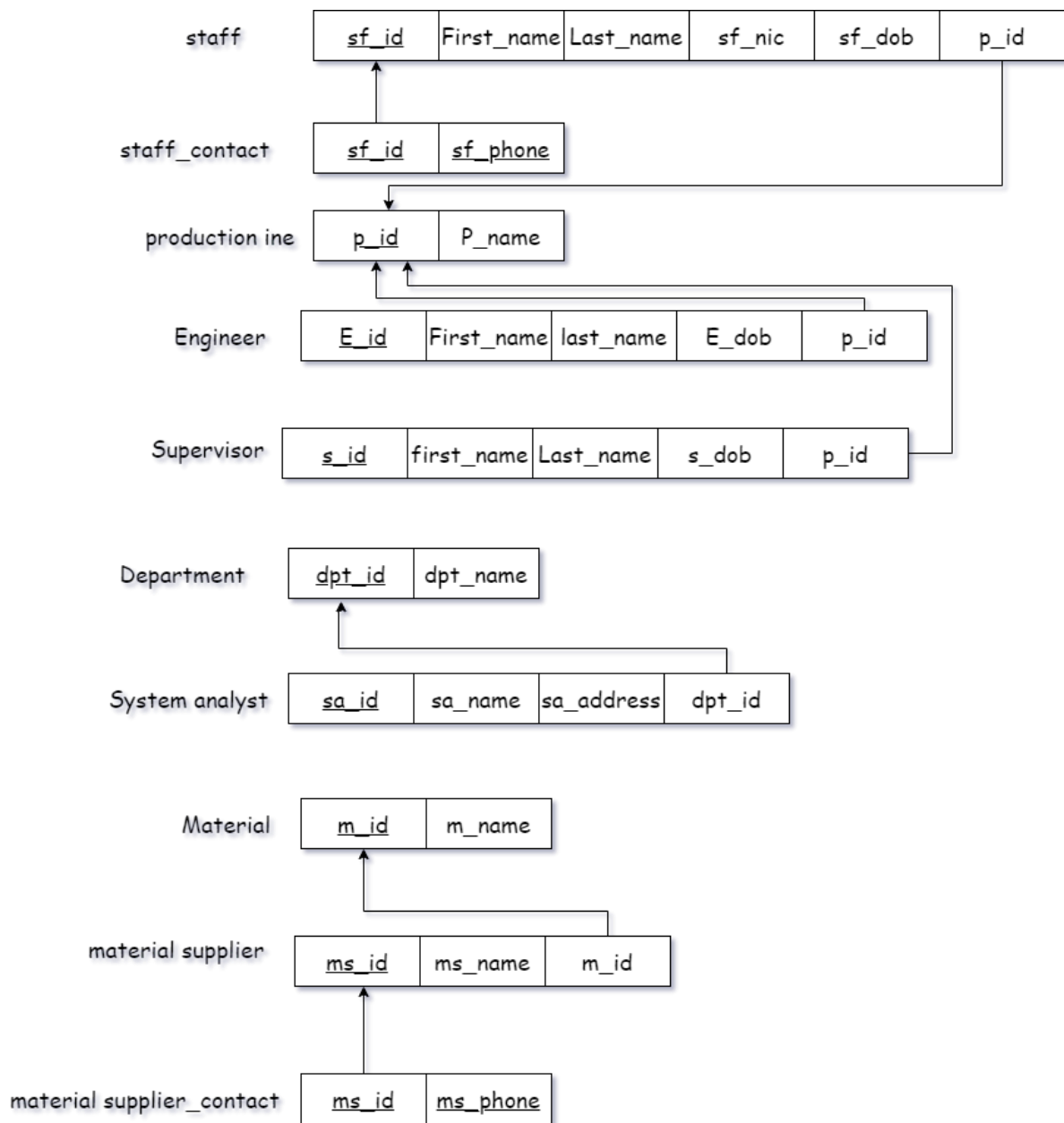
- ✓ Department I.D.
- ✓ Department name

Distributor:

- ✓ Distributor I.D.
- ✓ Distributor name.
- ✓ Distributor address.



Entity relationship diagram (E-R diagram)



Relational schema

Database creation using SQL commands

-----Production line-----

```
create table Production_line
(
    p_id char(5),    /*production ID*/
    p_name varchar(20),
    constraint PIp_id_PK PRIMARY KEY(p_id),
    constraint PIp_idCh check (p_id like '[p/P][0-9][0-9][0-9][0-9]')
);
```

-----Staff-----

```
create table Staff
(
    sf_id char(6),    /*staff ID*/
    f_name varchar(24),
    l_name varchar(23),
    sf_nic char(10),
    sf_dob date,
    p_id char(5),    /*production line*/
    constraint Staff_PK PRIMARY KEY(sf_id),
    constraint sf_id check (sf_id like '[s/S][f/F][0-9][0-9][0-9][0-9]'),
    constraint p_id_FK FOREIGN KEY(p_id) REFERENCES
Production_line(p_id),
    constraint sf_nic check (sf_nic like '[0-9][0-9][0-9][0-9][0-9][0-9][v/V]'),
    constraint PIp_idCh check (p_id like '[p/P][0-9][0-9][0-9][0-9]')
);
```

-----Staff Contact-----

```
create table Staff_contact
(
    sf_id char(6),    /*staff ID*/
    sf_phone int,    /*staff phone number*/
    constraint sf_PK PRIMARY KEY(sf_id,sf_phone),
    constraint sf_id_FK1 FOREIGN KEY(sf_id) REFERENCES
Staff(sf_id),
    constraint sf_id_PK1 check (sf_id like '[s/S][f/F][0-9][0-9][0-9][0-9]')
);
```

-----Engineer-----

```
create table Engineer
(
    E_id char(3), /*engineer ID*/
    f_name varchar(10),
    l_name varchar(10),
    E_dob date,
    p_id char(5),
    constraint Engineer_PK1 PRIMARY KEY(E_id),
    constraint Engineer_p_id_FK1 FOREIGN KEY(p_id) REFERENCES
Production_line(p_id),
    constraint E_id_pk1 check(E_id like '[e/E][0-9][0-9]')
);
```

-----Supervisor-----

```
create table Supervisor
(
    s_id char(5) , /*supervisor ID*/
    f_name varchar(10),
    l_name varchar(10),
    s_dob date,
    sf_id char(6) ,
    constraint Supervisor_PK primary key(s_id),
    constraint sf_id_FK foreign key(sf_id) references
staff(sf_id),
    constraint s_idCh check (s_id like '[s/S][0-9][0-9][0-9][0-9]'),
    constraint sf_idCh check (sf_id like '[s/S][f/F][0-9][0-9][0-9][0-9]')
);
```

-----Department-----

```
create table Department
(
    dpt_id char(3), /*Department ID*/
    dpt_name varchar(15),
    constraint dpt_id PRIMARY KEY(dpt_id),
    constraint dpt_id_PKCh check (dpt_id like '[d/D][0-9][0-9]')
);
```

-----System Analyst-----

create table SystemAnalyst

```
(
    sa_id char(4),      /*System Analyst ID*/
    sa_name varchar(10),
    sa_address char(20),
    dpt_id char(3),
    constraint SystemAnalyst_PK primary key(sa_id),
    constraint sa_id_pk check(sa_id like '[s/S][a/A][0-9][0-9]'),
    constraint dpt_id_FK foreign key(dpt_id) references
Department(dpt_id),
    constraint dpt_id check (dpt_id like '[d/D][0-9][0-9]')
);
```

-----Material-----

create table Material

```
(
    m_id char(4),      /*Material*/
    m_name varchar(25),
    constraint m_id PRIMARY KEY(m_id),
    constraint m_id_PKCh check (m_id like '[m/M][0-9][0-9][0-9]')
);
```

-----Material Supplier-----

create table MaterialSupplier

```
(
    ms_id char(4),      /*Material Supplier*/
    ms_name varchar(28),
    m_id char(4),
    constraint ms_PK primary key(ms_id),
    constraint m_id_FK foreign key(m_id) references Material(m_id),
    constraint ms_idCh check (ms_id like '[m/M][s/S][0-9][0-9]'),
    constraint m_idCh check (m_id like '[m/M][0-9][0-9][0-9]')
);
```

```

-----Material Supplier Contact-----
create table MaterialSupplier_Contact
(
    ms_id char(4),
    ms_phone int,
    constraint ms_id_PK primary key(ms_id,ms_phone),
    constraint ms_id_FK foreign key(ms_id) references
MaterialSupplier(ms_id),
    constraint ms_id_PK1 check (ms_id like '[m/M][s/S][0-9][0-
9]'),

);

```

```

INSERT into Production_line values('p0001','cutting');
INSERT into Production_line values('p0002','sewing');
INSERT into Production_line values('p0003','pressing');
INSERT into Production_line values('p0004','designig');
INSERT into Production_line values('p0005','Iron');
INSERT into Production_line values('p0006','packing');
INSERT into Production_line values('p0007','sticker pasting');
INSERT into Production_line values('p0008','gluing');
INSERT into Production_line values('p0009','separating');
INSERT into Production_line values('p0010','storing');

```

```

INSERT into Staff
values('sf0001','kamal','silva','985623464v','1998/06/05','p0001');
INSERT into Staff
values('sf0002','ajith','kumar','964565132v','1996/11/15','p0002');
INSERT into Staff
values('sf0003','sujith','kumar','944354354v','1994/08/07','p0003');
INSERT into Staff
values('sf0004','vikram','singa','896435456v','1989/05/09','p0004');
INSERT into Staff
values('sf0005','kapil','deva','956268686v','1995/11/23','p0005');
INSERT into Staff
values('sf0006','kamesh','khan','982624684v','1998/04/01','p0006');
INSERT into Staff
values('sf0007','chandra','kumari','946484646v','1994/05/03','p0007'
);
INSERT into Staff
values('sf0008','kamalesh','kumar','889265425v','1988/12/15','p0008'
);
INSERT into Staff
values('sf0009','shan','jude','936226652v','1993/08/09','p0009');
INSERT into Staff
values('sf0010','deva','raj','916546545v','1991/07/30','p0010');

```

```

INSERT into Staff_contact values('sf0001','0774569321');
INSERT into Staff_contact values('sf0002','0713435455');
INSERT into Staff_contact values('sf0003','0758645435');
INSERT into Staff_contact values('sf0004','0765464666');
INSERT into Staff_contact values('sf0005','0766286265');
INSERT into Staff_contact values('sf0006','0746464654');
INSERT into Staff_contact values('sf0007','0706545464');
INSERT into Staff_contact values('sf0008','0726465240');
INSERT into Staff_contact values('sf0009','0776626465');
INSERT into Staff_contact values('sf0010','0786246452');

```

```

INSERT into Engineer
values('e01','supul','gamage','1998/06/02','p0001');
INSERT into Engineer
values('e02','lasith','kumar','1997/05/02','p0002');
INSERT into Engineer
values('e03','praveen','kumar','1994/07/01','p0003');
INSERT into Engineer
values('e04','sanjai','dharan','1989/08/15','p0004');

```

```

INSERT into Supervisor
values('s0001','lakmal','gamage','1998/03/04','sf0001');
INSERT into Supervisor
values('s0002','sachin','arjun','1987/05/14','sf0002');
INSERT into Supervisor
values('s0003','raja','kumar','1986/09/11','sf0003');
INSERT into Supervisor
values('s0004','sujith','praveen','1997/12/10','sf0004');

```

```

INSERT into Department values('d01','sales');
INSERT into Department values('d02','colouring');
INSERT into Department values('d03','supplying');
INSERT into Department values('d04','packing');

```

```

INSERT into SystemAnalyst values('sa01','Kamal','no,15
kaduwela','d01');
INSERT into SystemAnalyst values('sa02','pethum','no,55
malabe','d02');
INSERT into SystemAnalyst values('sa03','akash','no,10
hatton','d03');
INSERT into SystemAnalyst values('sa04','andrew','no,52
jaffna','d04');
INSERT into SystemAnalyst values('sa05','kapil','no,2
colombo13','d02');
INSERT into SystemAnalyst values('sa06','jude','no,32 kandy','d03');

```



```

INSERT into SystemAnalyst values('sa07','sithum','no,74
kegalle','d01');
INSERT into SystemAnalyst values('sa08','papasara','no,12
galle','d03');
INSERT into SystemAnalyst values('sa09','kasun','no,85 ella','d04');
INSERT into SystemAnalyst values('sa10','laxshan','no,45 gall
face','d02');

```

```

INSERT into Material values('m001','cotton');
INSERT into Material values('m002','fabric');
INSERT into Material values('m003','polyester');
INSERT into Material values('m004','jersy cotton');
INSERT into Material values('m005','cellulostic fibre');
INSERT into Material values('m006','wool');
INSERT into Material values('m007','silk');
INSERT into Material values('m008','leather');
INSERT into Material values('m009','bastfibre');
INSERT into Material values('m010','notation and hardware');

```

```

INSERT into MaterialSupplier values('ms01','CMT pvt','m001');
INSERT into MaterialSupplier values('ms02','SMD pvt','m002');
INSERT into MaterialSupplier values('ms03','King pvt','m003');
INSERT into MaterialSupplier values('ms04','Sport pvt','m004');
INSERT into MaterialSupplier values('ms05','casual pvt','m005');
INSERT into MaterialSupplier values('ms06','sl pvt','m006');
INSERT into MaterialSupplier values('ms07','material pvt','m007');
INSERT into MaterialSupplier values('ms08','trans pvt','m008');
INSERT into MaterialSupplier values('ms09','online order
pvt','m009');
INSERT into MaterialSupplier values('ms10','ordinary pvt','m010');

```

```

INSERT into MaterialSupplier_Contact values('ms01','0784543654');
INSERT into MaterialSupplier_Contact values('ms02','0725465456');
INSERT into MaterialSupplier_Contact values('ms03','0715465465');
INSERT into MaterialSupplier_Contact values('ms04','0756545465');
INSERT into MaterialSupplier_Contact values('ms05','0776858464');
INSERT into MaterialSupplier_Contact values('ms06','0752626888');
INSERT into MaterialSupplier_Contact values('ms07','0726568651');
INSERT into MaterialSupplier_Contact values('ms08','0775687687');
INSERT into MaterialSupplier_Contact values('ms09','0726684264');
INSERT into MaterialSupplier_Contact values('ms10','0711468468');

```

Individual Contribution

	Student ID	Student name	Individual Contribution
1	IT20652296	R.M.K.I Bandara	<ul style="list-style-type: none">• Relational schema.
2	IT206269938	A.L.Chanuka	<ul style="list-style-type: none">• Data requirement analyses.
3	IT20620752	Ryan Melan	<ul style="list-style-type: none">• Main requirement analyses.
4	IT20667146	R.Kinash Raja	<ul style="list-style-type: none">• Database creation using SQL commands
5	IT20660116	N.Sulaxshayan	<ul style="list-style-type: none">• Hypothetical scenario• Introduction• E-R diagram

