ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH

TRƯỜNG ĐẠI HỌC BÁCH KHOA HỒ CHÍ MINH

HỆ CƠ SỞ DỮ LIỆU THỰC HÀNH

Assignment2

DBMS

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TP.HỒ CHÍ MINH, Tháng 12 năm 2020

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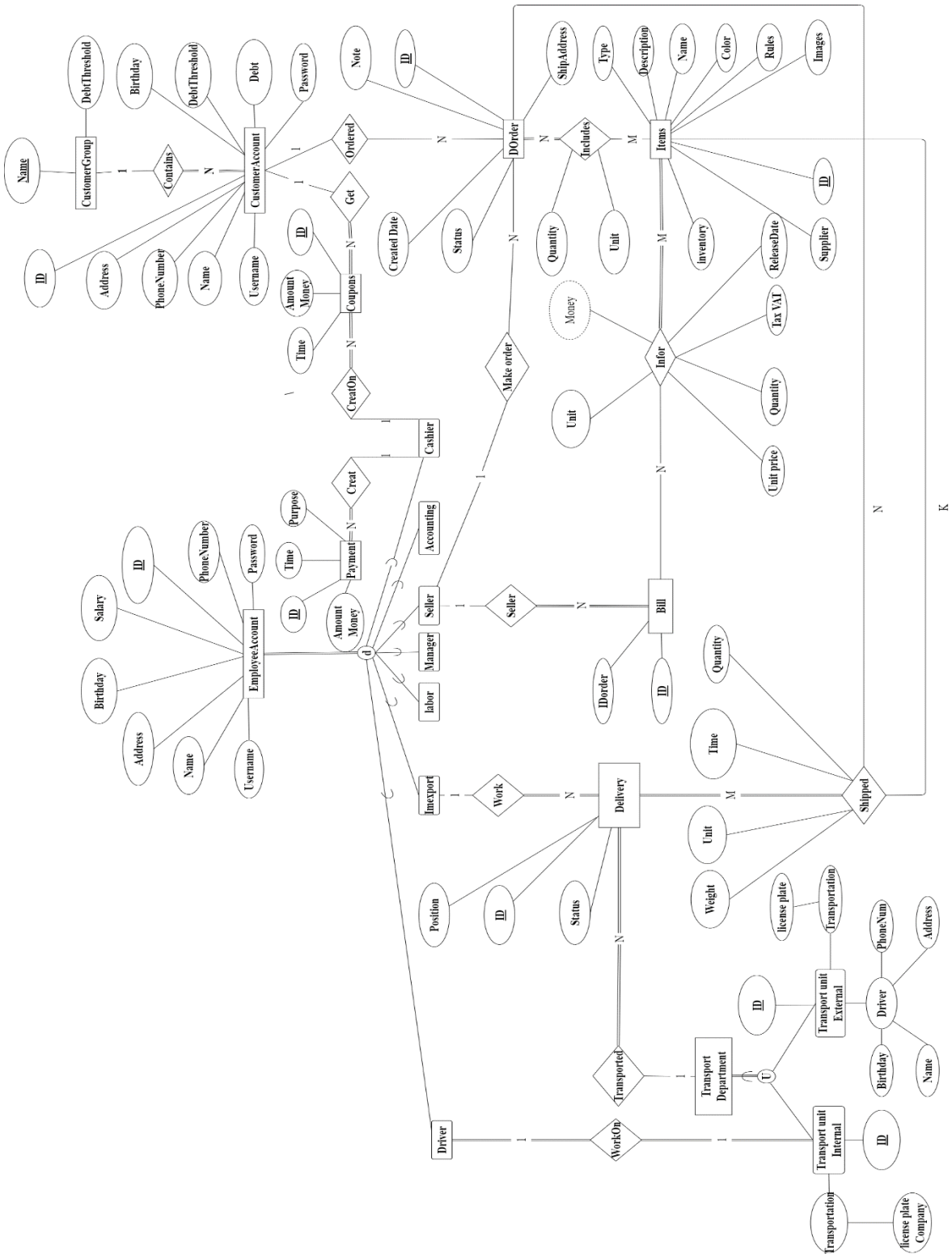
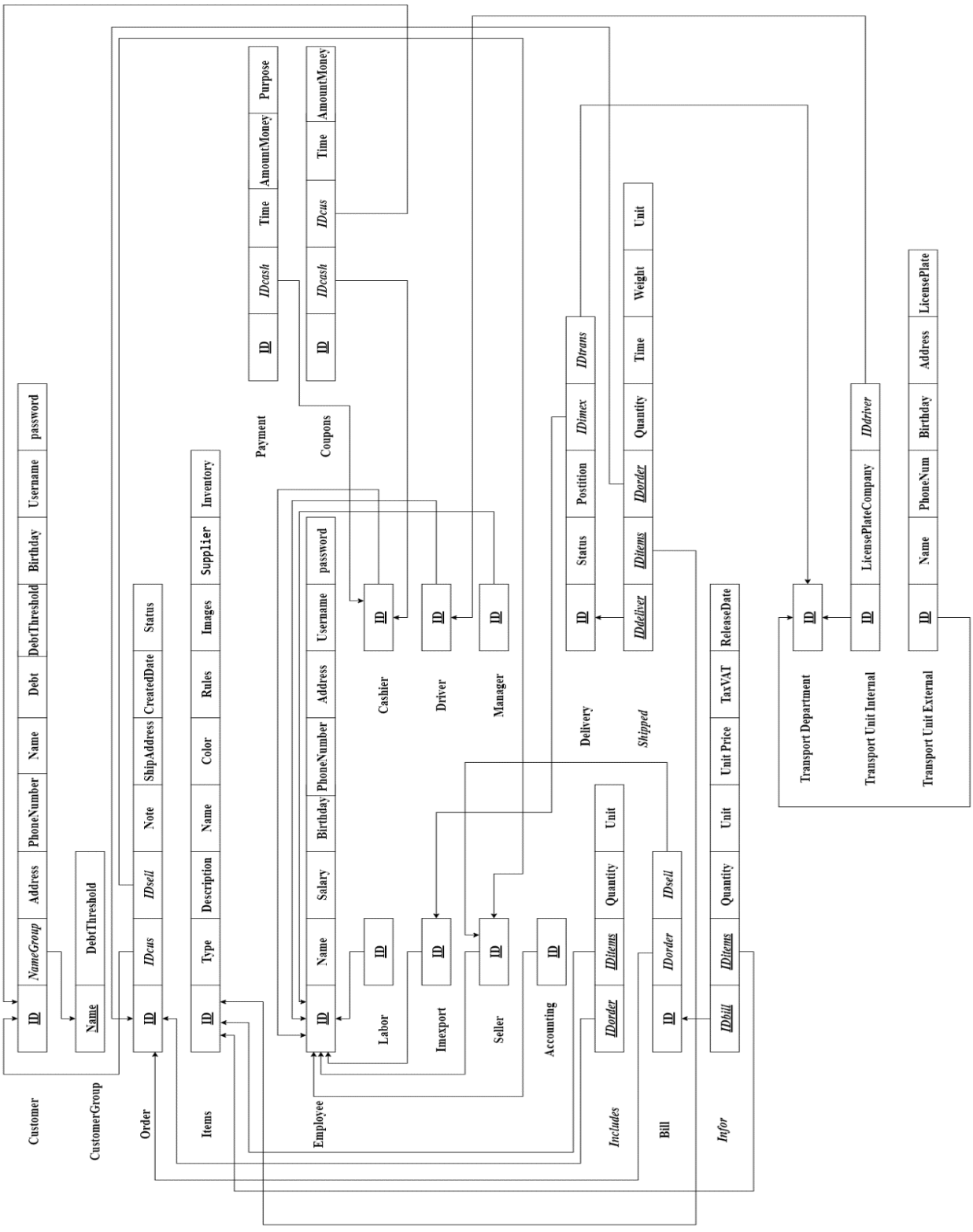
PHẦN 1

1.1 Lược đồ ERD



1.2 Lược đồ Cơ Sở Dữ Liệu



1.3 Database in DBMS MYSQL

```
-- Create Customer Group Table
CREATE TABLE CUSTOMERGROUP (
    NAMEGROUP       VARCHAR(15)     NOT NULL,
    DEBTTHRESHOLD   DECIMAL(10,2)   DEFAULT 0,

    PRIMARY KEY (NAMEGROUP)
);

-- Create Customer Table
CREATE TABLE CUSTOMER_ACC (
    USERNAME        VARCHAR(100)    NOT NULL,
    DPASSWORD       VARCHAR(100)    NOT NULL,
    FNAME           VARCHAR(15)     NOT NULL,
    MINIT           CHAR,
    LNAME           VARCHAR(15)     NOT NULL,
    ID              CHAR(15),
    BIRTHDAY        DATE            NOT NULL,
    ADDRESS         VARCHAR(100)    NOT NULL,
    SEX             CHAR            NOT NULL,
    PHONENUMBER     INT             NOT NULL,
    DEBT            DECIMAL(10,2)   DEFAULT 0,
    DEBTTHRESHOLD   DECIMAL(10,2)   DEFAULT 0,
    NAMEGROUP       VARCHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (NAMEGROUP)
    REFERENCES CUSTOMERGROUP (NAMEGROUP) ON DELETE SET NULL ON UPDATE CASCADE
);

-- Create Employee Table
CREATE TABLE EMPLOYEE_ACC (
    USERNAME        VARCHAR(100)    NOT NULL,
    DPASSWORD       VARCHAR(100)    NOT NULL,
    FNAME           VARCHAR(15)     NOT NULL,
    MINIT           CHAR,
    LNAME           VARCHAR(15)     NOT NULL,
    ID              CHAR(15),
    BIRTHDAY        DATE            NOT NULL,
    ADDRESS         VARCHAR(100)    NOT NULL,
    SEX             CHAR            NOT NULL,
    SALARY          DECIMAL(10,2)   DEFAULT 0,
```

```
    PHONENUMBER     INT             NOT NULL,
    MANAGER_ID      CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (MANAGER_ID)
    REFERENCES EMPLOYEE_ACC (ID) ON DELETE SET NULL ON UPDATE CASCADE
);

-- Create Cashier Table
CREATE TABLE CASHIER (
    ID              CHAR(15),
    PRIMARY KEY (ID),
    FOREIGN KEY (ID)
    REFERENCES EMPLOYEE_ACC (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create Driver Table
CREATE TABLE DRIVER (
    ID              CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (ID)
    REFERENCES EMPLOYEE_ACC (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create Seller Table
CREATE TABLE SELLER (
    ID              CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (ID)
    REFERENCES EMPLOYEE_ACC (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create Imexport Table
CREATE TABLE IMEXPORT (
    ID              CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (ID)
    REFERENCES EMPLOYEE_ACC (ID) ON DELETE CASCADE ON UPDATE CASCADE
);
```

```sql
-- Create Order Table
CREATE TABLE DORDER (
    ID              CHAR(15),
    NOTE            TEXT            NOT NULL,
    SHIPADDRESS     VARCHAR(100)    NOT NULL,
    CREATEDATE      DATE            NOT NULL,
    DSTATUS         TEXT            NOT NULL,
    CUS_ID          CHAR(15),
    SELL_ID         CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (CUS_ID)
    REFERENCES CUSTOMER_ACC (ID) ON DELETE SET NULL ON UPDATE CASCADE,
    FOREIGN KEY (SELL_ID)
    REFERENCES SELLER (ID) ON DELETE SET NULL ON UPDATE CASCADE
);

-- Create Items Table
CREATE TABLE ITEMS (
    ID              CHAR(15),
    DTYPE           VARCHAR(30)     NOT NULL,
    DDESCRIPTION    TEXT            NOT NULL,
    DNAME           VARCHAR(30)     NOT NULL,
    COLOR           VARCHAR(15),
    RULES           TEXT,
    IMAGES          VARCHAR(100),
    SUPPLIER        VARCHAR(100)    NOT NULL,
    INVENTORY       INT             DEFAULT 0,

    PRIMARY KEY (ID)
);

-- Create Bill Table
CREATE TABLE BILL (
    ID              CHAR(15),
    ORDER_ID        CHAR(15),
    SELL_ID         CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (ORDER_ID)
    REFERENCES DORDER (ID) ON DELETE SET NULL ON UPDATE CASCADE,
    FOREIGN KEY (SELL_ID)
    REFERENCES SELLER (ID) ON DELETE SET NULL ON UPDATE CASCADE
```

```
);

-- Create infor Table
CREATE TABLE INFOR (
    QUANTITY        INT             DEFAULT 0,
    UNIT            VARCHAR(30)     NOT NULL,
    UNITPRICE       DECIMAL(10,2)   DEFAULT 0,
    TAXVAT          DECIMAL(10,2)   DEFAULT 0,
    RELEASEDATE     DATE            NOT NULL,
    BILL_ID         CHAR(15),
    ITEMS_ID        CHAR(15),

    PRIMARY KEY (BILL_ID,ITEMS_ID),
    FOREIGN KEY (BILL_ID)
    REFERENCES BILL (ID) ON DELETE CASCADE ON UPDATE CASCADE,
    FOREIGN KEY (ITEMS_ID)
    REFERENCES ITEMS (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create Includes Table
CREATE TABLE INCLUDES (
    QUANTITY        INT             DEFAULT 0,
    UNIT            VARCHAR(30)     NOT NULL,
    ORDER_ID        CHAR(15),
    ITEMS_ID        CHAR(15),

    PRIMARY KEY (ORDER_ID,ITEMS_ID),
    FOREIGN KEY (ORDER_ID)
    REFERENCES DORDER (ID) ON DELETE CASCADE ON UPDATE CASCADE,
    FOREIGN KEY (ITEMS_ID)
    REFERENCES ITEMS (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create Transport Department Table
CREATE TABLE TRANS_DEPT (
    ID      CHAR(15),
    PRIMARY KEY (ID)
);

-- Create in Transport Unit Internal Table
CREATE TABLE IN_TRANS_DEPT (
    ID              CHAR(15),
    LICENSE         VARCHAR(30)     NOT NULL,
```

```
    DRIVER_ID       CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (DRIVER_ID)
    REFERENCES DRIVER (ID) ON DELETE SET NULL ON UPDATE CASCADE,
    FOREIGN KEY (ID)
    REFERENCES TRANS_DEPT (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create ex Transport Department Table
CREATE TABLE EX_TRANS_DEPT (
    FNAME           VARCHAR(15)     NOT NULL,
    MINIT           CHAR,
    LNAME           VARCHAR(15)     NOT NULL,
    ID              CHAR(15),
    BIRTHDAY        DATE            NOT NULL,
    ADDRESS         VARCHAR(100)    NOT NULL,
    SEX             CHAR            NOT NULL,
    PHONENUMBER     INT             NOT NULL,
    LICENSE         VARCHAR(30)     NOT NULL,

    PRIMARY KEY (ID),
    FOREIGN KEY (ID)
    REFERENCES TRANS_DEPT (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Create Delivery Table
CREATE TABLE DELIVERY (
    ID              CHAR(15),
    DSTATUS         TEXT            NOT NULL,
    DPOSITION       VARCHAR(30)     NOT NULL,
    IMEX_ID         CHAR(15),
    TRANS_ID        CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (IMEX_ID)
    REFERENCES IMEXPORT (ID) ON DELETE SET NULL ON UPDATE CASCADE,
    FOREIGN KEY (TRANS_ID)
    REFERENCES TRANS_DEPT(ID) ON DELETE SET NULL ON UPDATE CASCADE
);

-- Creat Shiped Table
CREATE TABLE SHIPPED (
```

```
    QUANTITY        INT             DEFAULT 0,
    DTIME           DATE            NOT NULL,
    UNIT            VARCHAR(30)     NOT NULL,
    WEIGHT          FLOAT           DEFAULT 0,
    DEL_ID          CHAR(15),
    ITEMS_ID        CHAR(15),
    ORDER_ID        CHAR(15),

    PRIMARY KEY (DEL_ID,ITEMS_ID,ORDER_ID),
    FOREIGN KEY (DEL_ID)
    REFERENCES DELIVERY (ID) ON DELETE CASCADE ON UPDATE CASCADE,
    FOREIGN KEY (ITEMS_ID)
    REFERENCES ITEMS (ID) ON DELETE CASCADE ON UPDATE CASCADE,
    FOREIGN KEY (ORDER_ID)
    REFERENCES DORDER (ID) ON DELETE CASCADE ON UPDATE CASCADE
);

-- Creat Payment Table
CREATE TABLE PAYMENT (
    ID              CHAR(15),
    DTIME           DATE                NOT NULL,
    AMONEY          DECIMAL(10,2)       DEFAULT 0,
    PURPOSE         VARCHAR(100)        NOT NULL,
    CASH_ID         CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (CASH_ID)
    REFERENCES CASHIER (ID) ON DELETE SET NULL ON UPDATE CASCADE
);
-- Creat Coupons Table
CREATE TABLE COUPONS (
    ID              CHAR(15),
    DTIME           DATE                NOT NULL,
    AMONEY          DECIMAL(10,2)       DEFAULT 0,
    CASH_ID         CHAR(15),
    CUS_ID          CHAR(15),

    PRIMARY KEY (ID),
    FOREIGN KEY (CASH_ID)
    REFERENCES CASHIER (ID) ON DELETE SET NULL ON UPDATE CASCADE,
    FOREIGN KEY (CUS_ID)
    REFERENCES CUSTOMER_ACC (ID) ON DELETE SET NULL ON UPDATE CASCADE
);
```

1.4 Dữ liệu sử dụng trong Database

```
-- DATA CUSTOMERGROUP
INSERT INTO CUSTOMERGROUP
VALUES ('Class A', 500000);
INSERT INTO CUSTOMERGROUP
VALUES ('Class B', 400000);
INSERT INTO CUSTOMERGROUP
VALUES ('Class C', 300000);
INSERT INTO CUSTOMERGROUP
VALUES ('Class D', 200000);
INSERT INTO CUSTOMERGROUP
VALUES ('Class E', 100000);
```

NAMEGROUP	DEBTTHRESHOLD
Class A	500000.00
Class B	400000.00
Class C	300000.00
Class D	200000.00
Class E	100000.00

```
-- DATA CUSTOMER
INSERT INTO CUSTOMER_ACC
VALUES ('jamescus','123df','James', 'E', 'Borg', '18120000', '1977-11-
10', '450 Stone, Houston, TX', 'M', 0900000, 0,500000, 'Class A');
INSERT INTO CUSTOMER_ACC
VALUES ('Frankcus','1hj3h','Franklin', 'T', 'Wong', '18120001', '1995-12-
08', '638 Voss, Houston, TX', 'M', 0900001,1000,400000, 'Class B');
INSERT INTO CUSTOMER_ACC
VALUES ('Johncus','jdhjd','John', 'B', 'Smith', '18120002', '1985-01-
09', '731 Fondren, Houston, TX', 'M', 0900002, 0,300000, 'Class C');
INSERT INTO CUSTOMER_ACC
VALUES ('jencus','jdh389@','Jennifer', 'S', 'Wallace', '18120003', '1981-06-
20', '291 Berry, Bellaire, TX', 'F', 0900003, 3000,200000, 'Class D');
INSERT INTO CUSTOMER_ACC
VALUES ('ramcus','38hcs','Ramesh', 'K', 'Narayan', '18120004', '1992-09-
15', '975 Fire Oak, Humble, TX', 'M', 0900004, 500,100000, 'Class E');
```

USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	PHONENUMBER	DEBT	DEBTTHRESHOLD	NAMEGROUP
jamescus	123df	James	E	Borg	18120000	1977-11-10	450 Stone, Houston, TX	M	900000	0.00	500000.00	Class A
Frankcus	1hj3h	Franklin	T	Wong	18120001	1995-12-08	638 Voss, Houston, TX	M	900001	1000.00	400000.00	Class B
Johncus	jdhjd	John	B	Smith	18120002	1985-01-09	731 Fondren, Houston, TX	M	900002	0.00	300000.00	Class C
jencus	jdh389@	Jennifer	S	Wallace	18120003	1981-06-20	291 Berry, Bellaire, TX	F	900003	3000.00	200000.00	Class D
ramcus	38hcs	Ramesh	K	Narayan	18120004	1992-09-15	975 Fire Oak, Humble, TX	M	900004	500.00	100000.00	Class E
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
-- DATA EMPLOYEE
INSERT INTO EMPLOYEE_ACC
```

```
VALUES ('jenem','8dy7d','Jen', 'S', 'Wallace', '350000', '1971-06-
20', '291 Berry, Bellaire, TX', 'F', 43000, 3800000, NULL);
INSERT INTO EMPLOYEE_ACC
VALUES ('khuem','847gdf','Khus', 'K', 'Narayan', '350001', '1972-09-
15', '975 Fire Oak, Humble, TX', 'M', 380020, 3800001,NULL);
INSERT INTO EMPLOYEE_ACC
VALUES ('joyem','983id','Joyce', 'A', 'English', '350002', '1972-07-
31', '5631 Rice, Houston, TX', 'F', 250300, 3800002,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('aliem','9dkxs','Alicia', 'J', 'Zelaya', '350003', '1968-01-
19', '3321 Castle, Spring, TX', 'F', 25000, 3800003,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('ahmem','jkd7s','Ahmad', 'V', 'Jabbar', '350004', '1969-03-
29', '980 Dallas, Houston, TX', 'M', 250300, 3800004,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('catem','0d8hd','Cathy', 'S', 'Wal', '350005', '1971-06-
20', '295 Berry, Bellaire, TX', 'F', 430300, 3800005, '350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('robem','090shh','Robie', 'K', 'Naraee', '350006', '1972-09-
15', '955 Fire Oak, Humble, TX', 'M', 38000, 3800005, '350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('jayem','9hdhd8','Jayee', 'A', 'Mad', '350007', '1972-07-
31', '5531 Rice, Houston, TX', 'F', 250300, 3800007,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('alicem','y7sff','Alice', 'J', 'Nae', '350008', '1968-01-
19', '3621 Castle, Spring, TX', 'F', 25000, 3800008,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('timem','dnkkdnk','Tim', 'V', 'Anbi', '350009', '1969-03-
29', '680 Dallas, Houston, TX', 'M', 25000, 3800009,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('alem','8gd8127','Alex', 'S', 'Echen', '3500010', '1971-06-
20', '271 Berry, Bellaire, TX', 'F', 43000, 38000010, '350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('rinem','8shss','Rin', 'K', 'Narayan', '3500011', '1972-09-
15', '175 Fire Oak, Humble, TX', 'M', 38000, 38000011, NULL);
INSERT INTO EMPLOYEE_ACC
VALUES ('neem','hsdiusd','Neil', 'A', 'English', '3500012', '1972-07-
31', '5331 Rice, Houston, TX', 'F', 25000, 38000012,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('binem','dkjdsa','Binz', 'J', 'Zelae', '3500013', '1968-01-
19', '3341 Castle, Spring, TX', 'F', 25000,38000013,'350002');
INSERT INTO EMPLOYEE_ACC
```

```
VALUES ('kumem','djkd','Kuma', 'V', 'Jabbar', '3500014', '1969-03-
29', '960 Dallas, Houston, TX', 'M', 25000,38000014,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('teeem','sodoss','Teena', 'S', 'Wallace', '3500015', '1971-06-
20', '591 Berry, Bellaire, TX', 'F', 43000,38000015, '350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('tinaem','kdjd9s','Tina', 'K', 'Narayan', '3500016', '1972-09-
15', '11275 Fire Oak, Humble, TX', 'M', 38000, 38000016, NULL);
INSERT INTO EMPLOYEE_ACC
VALUES ('minem','38034c','Mins', 'A', 'Watson', '3500017', '1972-07-
31', '54631 Rice, Houston, TX', 'F', 25000, 38000017,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('cobuem','0390231','cobu', 'J', 'Timse', '3500018', '1968-01-
19', '33231 Castle, Spring, TX', 'F', 25000, 38000018,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('aliem','2092j','Ali', 'V', 'Ali', '3500019', '1969-03-
29', '9180 Dallas, Houston, TX', 'M', 25000, 38000019,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('samem','093hd','Sam', 'S', 'Qaaed', '3500020', '1971-06-
20', '2291 Berry, Bellaire, TX', 'F', 43000, 38000020, '350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('takem','ehkess','Takaa', 'K', 'Narayan', '3500021', '1972-09-
15', '9375 Fire Oak, Humble, TX', 'M', 38000, 38000021, NULL);
INSERT INTO EMPLOYEE_ACC
VALUES ('alinem','kddddd','Alins', 'A', 'Alexname', '3500022', '1972-07-
31', '56431 Rice, Houston, TX', 'F', 25000, 38000022,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('akiem','djd22','Akiee', 'J', 'Rin', '3500023', '1968-01-
19', '33241 Castle, Spring, TX', 'F', 25000,38000023,'350002');
INSERT INTO EMPLOYEE_ACC
VALUES ('quaaem','kd282d','Qaanu', 'V', 'Maask', '3500024', '1969-03-
29', '9840 Dallas, Houston, TX', 'M', 25000, 38000024,'350002');
```

USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
jenem	8dy7d	Jen	S	Wallace	350000	1971-06-20	291 Berry, Bellaire, TX	F	43000.00	3800000	NULL
khuem	847gdf	Khus	K	Narayan	350001	1972-09-15	975 Fire Oak, Humble, TX	M	380020.00	3800001	NULL
alem	8gd8127	Alex	S	Echen	3500010	1971-06-20	271 Berry, Bellaire, TX	F	43000.00	38000010	350002
rinem	8shss	Rin	K	Narayan	3500011	1972-09-15	175 Fire Oak, Humble, TX	M	38000.00	38000011	NULL
neem	hsdiusd	Neil	A	English	3500012	1972-07-31	5331 Rice, Houston, TX	F	25000.00	38000012	350002
binem	dkjdsa	Binz	J	Zelae	3500013	1968-01-19	3341 Castle, Spring, TX	F	25000.00	38000013	350002
kumem	djkd	Kuma	V	Jabbar	3500014	1969-03-29	960 Dallas, Houston, TX	M	25000.00	38000014	350002
teeem	sodoss	Teena	S	Wallace	3500015	1971-06-20	591 Berry, Bellaire, TX	F	43000.00	38000015	350002
tinaem	kdjd9s	Tina	K	Narayan	3500016	1972-09-15	11275 Fire Oak, Humble, TX	M	38000.00	38000016	NULL
minem	38034c	Mins	A	Watson	3500017	1972-07-31	54631 Rice, Houston, TX	F	25000.00	38000017	350002

```
-- DATA CASHIER
INSERT INTO CASHIER
```

```
VALUES ('350000');
INSERT INTO CASHIER
VALUES ('350001');
INSERT INTO CASHIER
VALUES ('350002');
INSERT INTO CASHIER
VALUES ('350003');
INSERT INTO CASHIER
VALUES ('350004');
```

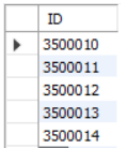
ID
350000
350001
350002
350003
350004
NULL

```
-- DATA DRIVER
INSERT INTO DRIVER
VALUES ('350005');
INSERT INTO DRIVER
VALUES ('350006');
INSERT INTO DRIVER
VALUES ('350007');
INSERT INTO DRIVER
VALUES ('350008');
INSERT INTO DRIVER
VALUES ('350009');
```

ID
350005
350006
350007
350008
350009

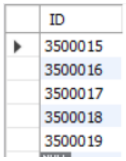
```
-- DATA SELL
INSERT INTO SELLER
VALUES ('3500010');
INSERT INTO SELLER
VALUES ('3500011');
INSERT INTO SELLER
VALUES ('3500012');
INSERT INTO SELLER
VALUES ('3500013');
INSERT INTO SELLER
```

```
VALUES ('3500014');
```



ID
3500010
3500011
3500012
3500013
3500014

```
-- DATA IMEXPORT
INSERT INTO IMEXPORT
VALUES ('3500015');
INSERT INTO IMEXPORT
VALUES ('3500016');
INSERT INTO IMEXPORT
VALUES ('3500017');
INSERT INTO IMEXPORT
VALUES ('3500018');
INSERT INTO IMEXPORT
VALUES ('3500019');
```



ID
3500015
3500016
3500017
3500018
3500019

```
-- DATA DORDER
INSERT INTO DORDER
VALUES ('55000', 'NO NOTE', '440 Stone, Bilane, TX', '2020-1-
10',  'COMPLETED', '18120004',  '3500010');
INSERT INTO DORDER
VALUES ('55001', 'NO NOTE', '450 Stone, Houston, TX', '2019-11-
10',  'CANCEL', '18120003',  '3500012');
INSERT INTO DORDER
VALUES ('55002', 'NO NOTE', '460 Wall, Houston, TX', '2019-11-
30',  'COMPLETED', '18120003',  '3500013');
INSERT INTO DORDER
VALUES ('55003', 'NO NOTE', '470 Mina, Quevec, TX', '2019-12-
21',  'WAITING', '18120001', '3500014');
INSERT INTO DORDER
VALUES ('55004', 'NO NOTE', '480 Stone, Houston, TX', '2020-11-
20',  'COMPLETED', '18120000',  '3500014');
```

ID	NOTE	SHIPADDRESS	CREATEDATE	DSTATUS	CUS_ID	SELL_ID
55000	NO NOTE	440 Stone, Bilane, TX	2020-01-10	COMPLETED	18120004	3500010
55001	NO NOTE	450 Stone, Houston, TX	2019-11-10	CANCEL	18120003	3500012
55002	NO NOTE	460 Wall, Houston, TX	2019-11-30	COMPLETED	18120003	3500013
55003	NO NOTE	470 Mina, Quevec, TX	2019-12-21	WAITING	18120001	3500014
55004	NO NOTE	480 Stone, Houston, TX	2020-11-20	COMPLETED	18120000	3500014

```
-- DATA ITEMS
INSERT INTO ITEMS
VALUES ('100000', 'Toy', 'Beautiful toy', 'Princess',  'red', NULL ,  NULL , 'Chi
na',100);
INSERT INTO ITEMS
VALUES ('100001', 'Shampoo', 'good shampoo for everyone', 'Miks',  'white', NULL
,  NULL , 'Japan',10);
INSERT INTO ITEMS
VALUES ('100002', 'Book', 'Comic book', 'Harry Potter',  'Yellow', NULL ,  NULL ,
 'UK',100);
INSERT INTO ITEMS
VALUES ('100003', 'Pencil', '5B pencil', 'Micca',  'blue', NULL ,  NULL , 'India'
,100);
INSERT INTO ITEMS
VALUES ('100004', 'Laptop', 'Good choice', 'Acers',  'black', NULL ,  NULL , 'US'
,100);
```

ID	DTYPE	DDESCRIPTION	DNAME	COLOR	RULES	IMAGES	SUPPLIER	INVENTORY
100000	Toy	Beautiful toy	Princess	red	NULL	NULL	China	100
100001	Shampoo	good shampoo for everyone	Miks	white	NULL	NULL	Japan	10
100002	Book	Comic book	Harry Potter	Yellow	NULL	NULL	UK	100
100003	Pencil	5B pencil	Micca	blue	NULL	NULL	India	100
100004	Laptop	Good choice	Acers	black	NULL	NULL	US	100

```
-- DATA BILL
INSERT INTO BILL
VALUES ('5000000', '55000' ,  '3500010');
INSERT INTO BILL
VALUES ('5000001', '55002' ,  '3500012');
INSERT INTO BILL
VALUES ('5000002', '55004' ,  '3500011');
INSERT INTO BILL
VALUES ('5000003', '55001' ,  '3500013');
INSERT INTO BILL
VALUES ('5000004', '55003' ,  '3500014');
INSERT INTO BILL
VALUES ('5000005', '55000' ,  '3500014');
INSERT INTO BILL
VALUES ('5000006', '55001' ,  '3500014');
```

ID	ORDER_ID	SELL_ID
5000000	55000	3500010
5000001	55002	3500012
5000002	55004	3500011
5000003	55001	3500013
5000004	55003	3500014
5000005	55000	3500014
5000006	55001	3500014

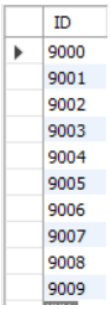
```
-- DATA INFOR
INSERT INTO INFOR
VALUES (10, 'm' , 200 , 10, '2020-11-21','5000000','100000');
INSERT INTO INFOR
VALUES (20, 'm' , 500 , 10, '2020-11-15','5000001','100001');
INSERT INTO INFOR
VALUES (20, 'm' , 560, 20, '2020-11-1','5000004','100003');
INSERT into INFOR
VALUES (30, 'm' , 2500, 40, '2020-10-11','5000004','100004');
INSERT INTO INFOR
VALUES (15, 'm' , 300, 10, '2020-9-11','5000004','100002');
```

QUANTITY	UNIT	UNITPRICE	TAXVAT	RELEASEDATE	BILL_ID	ITEMS_ID
10	m	200.00	10.00	2020-11-21	5000000	100000
20	m	500.00	10.00	2020-11-15	5000001	100001
15	m	300.00	10.00	2020-09-11	5000004	100002
20	m	560.00	20.00	2020-11-01	5000004	100003
30	m	2500.00	40.00	2020-10-11	5000004	100004

```
-- DATA INCLUDES
INSERT INTO INCLUDES
VALUES (1, 'm' ,'55000','100000');
INSERT INTO INCLUDES
VALUES (2, 'm' ,'55000','100002');
INSERT INTO INCLUDES
VALUES (5, 'm' ,'55002','100003');
INSERT INTO INCLUDES
VALUES (15, 'm' ,'55003','100004');
INSERT INTO INCLUDES
VALUES (5, 'm' ,'55004','100001');
```

QUANTITY	UNIT	ORDER_ID	ITEMS_ID
1	m	55000	100000
2	m	55000	100002
5	m	55002	100003
15	m	55003	100004
5	m	55004	100001

```
-- DATA TRANSPORTATION DEPARTMENT
INSERT INTO TRANS_DEPT
VALUES ('9000');
INSERT INTO TRANS_DEPT
VALUES ('9001');
INSERT INTO TRANS_DEPT
VALUES ('9002');
INSERT INTO TRANS_DEPT
VALUES ('9003');
INSERT INTO TRANS_DEPT
VALUES ('9004');
INSERT INTO TRANS_DEPT
VALUES ('9005');
INSERT INTO TRANS_DEPT
VALUES ('9006');
INSERT INTO TRANS_DEPT
VALUES ('9007');
INSERT INTO TRANS_DEPT
VALUES ('9008');
INSERT INTO TRANS_DEPT
VALUES ('9009');
```



ID
9000
9001
9002
9003
9004
9005
9006
9007
9008
9009

```
-- DATA INTERNAL TRANSPORTATION DEPARTMENT
INSERT INTO IN_TRANS_DEPT
VALUES ('9000','59H 794','350005');
INSERT INTO IN_TRANS_DEPT
VALUES ('9001','60H 797','350006');
INSERT INTO IN_TRANS_DEPT
VALUES ('9002','49H 097','350007');
INSERT INTO IN_TRANS_DEPT
VALUES ('9003','58H 007','350008');
INSERT INTO IN_TRANS_DEPT
VALUES ('9004','59H 124','350009');
```

	ID	LICENSE	DRIVER_ID
▶	9000	59H 794	350005
	9001	60H 797	350006
	9002	49H 097	350007
	9003	58H 007	350008
	9004	59H 124	350009

```
-- DATA EXTERNAL TRANSPORTATION DEPARTMENT
INSERT INTO EX_TRANS_DEPT
VALUES ('James', 'E', 'Borg', '9005', '1977-11-
10', '450 Stone, Houston, TX', 'M', 55000123, '58H 505');
INSERT INTO EX_TRANS_DEPT
VALUES ('Rina', 'S', 'Ali', '9006', '1987-1-
10', '451 Cleary, Houston, TX', 'M', 55000234, '59H 515');
INSERT INTO EX_TRANS_DEPT
VALUES ('John', 'T', 'Muha', '9007', '1997-3-
10', '460 Anbat, Houston, TX', 'M', 55000245, '60H 105');
INSERT INTO EX_TRANS_DEPT
VALUES ('Lee', 'A', 'James', '9008', '1979-11-
21', '470 Sto, Buns, TX', 'M', 55000567, '59H 005');
INSERT INTO EX_TRANS_DEPT
VALUES ('Kamin', 'D', 'Kuan', '9009', '1982-1-
10', '490 Stone, Houston, TX', 'M', 55000111, '58H 105');
```

	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	PHONENUMBER	LICENSE
▶	James	E	Borg	9005	1977-11-10	450 Stone, Houston, TX	M	55000123	58H 505
	Rina	S	Ali	9006	1987-01-10	451 Cleary, Houston, TX	M	55000234	59H 515
	John	T	Muha	9007	1997-03-10	460 Anbat, Houston, TX	M	55000245	60H 105
	Lee	A	James	9008	1979-11-21	470 Sto, Buns, TX	M	55000567	59H 005
	Kamin	D	Kuan	9009	1982-01-10	490 Stone, Houston, TX	M	55000111	58H 105

```
-- DATA DELIVERY
INSERT INTO DELIVERY
VALUES ('7000', 'departed' ,'Hanoi','3500015','9000');
INSERT INTO DELIVERY
VALUES ('7001', 'COMPLETED' ,'Hochiminh','3500016','9001');
INSERT INTO DELIVERY
VALUES ('7002', 'Not departed ' ,'Danang','3500015','9001');
INSERT INTO DELIVERY
VALUES ('7003', 'COMPLETED' ,'Hanoi','3500017','9002');
INSERT INTO DELIVERY
VALUES ('7004', 'COMPLETED' ,'Hanoi','3500018','9003');
```

ID	DSTATUS	DPOSITION	IMEX_ID	TRANS_ID
7000	departed	Hanoi	3500015	9000
7001	COMPLETED	Hochiminh	3500016	9001
7002	Not departed	Danang	3500015	9001
7003	COMPLETED	Hanoi	3500017	9002
7004	COMPLETED	Hanoi	3500018	9003

```
-- DATA SHIPED
INSERT INTO SHIPPED
VALUES (110, '2022-3-1' ,'m',20.3,'7000','100000','55000');
INSERT INTO SHIPPED
VALUES (110, '2022-3-1' ,'m',21.3,'7000','100004','55000');
INSERT INTO SHIPPED
VALUES (100, '2022-2-1' ,'m',25.5,'7001','100002','55001');
INSERT INTO SHIPPED
VALUES (200, '2022-1-1' ,'m',20.1,'7004','100003','55003');
INSERT INTO SHIPPED
VALUES (120, '2022-11-1' ,'m',202.3,'7004','100001','55003');
```

QUANTITY	DTIME	UNIT	WEIGHT	DEL_ID	ITEMS_ID	ORDER_ID
110	2022-03-01	m	20.3	7000	100000	55000
110	2022-03-01	m	21.3	7000	100004	55000
100	2022-02-01	m	25.5	7001	100002	55001
120	2022-11-01	m	202.3	7004	100001	55003
200	2022-01-01	m	20.1	7004	100003	55003

```
-- DATA PAYMENT
INSERT INTO PAYMENT
VALUES ('15000', '2022-1-1' ,2000,'Buy furniture','350000');
INSERT INTO PAYMENT
VALUES ('15001', '2022-12-1' ,3000,'Buy House','350000');
INSERT INTO PAYMENT
VALUES ('15002', '2022-2-1' ,2100,'Buy Laptop','350001');
INSERT INTO PAYMENT
VALUES ('15003', '2022-4-1' ,2500,'Buy Safety Equiment','350002');
INSERT INTO PAYMENT
VALUES ('15004', '2022-1-21' ,6000,'Buy furniture','350002');
```

ID	DTIME	AMONEY	PURPOSE	CASH_ID
15000	2022-01-01	2000.00	Buy furniture	350000
15001	2022-12-01	3000.00	Buy House	350000
15002	2022-02-01	2100.00	Buy Laptop	350001
15003	2022-04-01	2500.00	Buy Safety Equiment	350002
15004	2022-01-21	6000.00	Buy furniture	350002

```
-- DATA COUPONS
INSERT INTO COUPONS
VALUES ('25000', '2022-1-1' ,2003,'350000', '18120000');
```

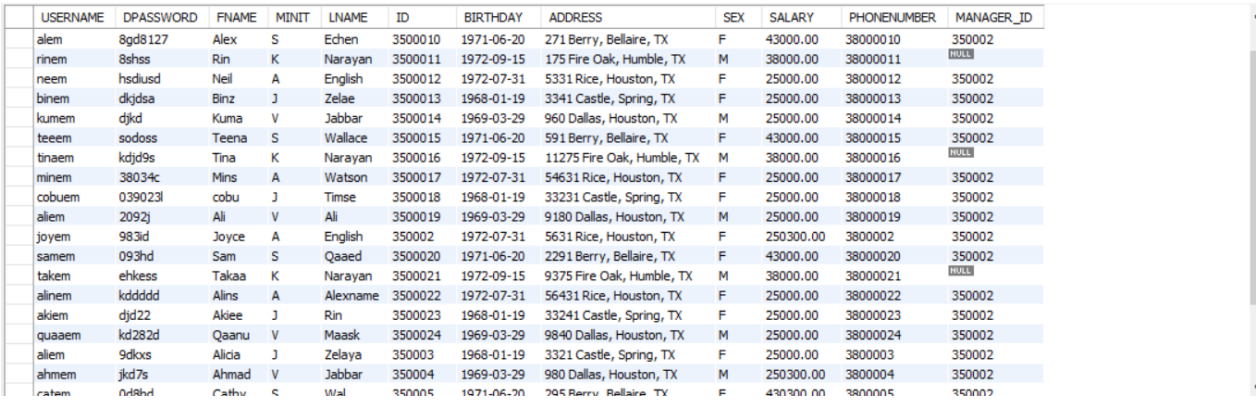
```
INSERT INTO COUPONS
VALUES ('25001', '2022-4-15' ,2023,'350000', '18120001');
INSERT INTO COUPONS
VALUES ('25002', '2022-1-12' ,2010,'350000', '18120001');
INSERT INTO COUPONS
VALUES ('25003', '2022-11-1' ,2000,'350004', '18120001');
INSERT INTO COUPONS
VALUES ('25004', '2022-4-1' ,2500,'350000', '18120004');
```

ID	DTIME	AMONEY	CASH_ID	CUS_ID
25000	2022-01-01	2003.00	350000	18120000
25001	2022-04-15	2023.00	350000	18120001
25002	2022-01-12	2010.00	350000	18120001
25003	2022-11-01	2000.00	350004	18120001
25004	2022-04-01	2500.00	350000	18120004

PHẦN 2

2.1 Tạo Thủ tục INSERT , UPDATE , DELETE vào một bảng MYSQL

Data lúc đầu trong Table EMPLOYEE_ACC



USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
alem	8gd8127	Alex	S	Echen	3500010	1971-06-20	271 Berry, Bellaire, TX	F	43000.00	38000010	350002
rinem	8shss	Rin	K	Narayan	3500011	1972-09-15	175 Fire Oak, Humble, TX	M	38000.00	38000011	NULL
neem	hsdiusd	Neil	A	English	3500012	1972-07-31	5331 Rice, Houston, TX	F	25000.00	38000012	350002
binem	dkjdsa	Binz	J	Zelae	3500013	1968-01-19	3341 Castle, Spring, TX	F	25000.00	38000013	350002
kumem	djkd	Kuma	V	Jabbar	3500014	1969-03-29	960 Dallas, Houston, TX	M	25000.00	38000014	350002
teeem	sodoss	Teena	S	Wallace	3500015	1971-06-20	591 Berry, Bellaire, TX	F	43000.00	38000015	350002
tinaem	kdjd9s	Tina	K	Narayan	3500016	1972-09-15	11275 Fire Oak, Humble, TX	M	38000.00	38000016	NULL
minem	38034c	Mins	A	Watson	3500017	1972-07-31	54631 Rice, Houston, TX	F	25000.00	38000017	350002
cobuem	039023l	cobu	J	Timse	3500018	1968-01-19	33231 Castle, Spring, TX	F	25000.00	38000018	350002
aliem	2092j	Ali	V	Ali	3500019	1969-03-29	9180 Dallas, Houston, TX	M	25000.00	38000019	350002
joyem	983id	Joyce	A	English	350002	1972-07-31	5631 Rice, Houston, TX	F	250300.00	3800002	350002
samem	093hd	Sam	S	Qaaed	3500020	1971-06-20	2291 Berry, Bellaire, TX	F	43000.00	38000020	350002
takem	ehkess	Takaa	K	Narayan	3500021	1972-09-15	9375 Fire Oak, Humble, TX	M	38000.00	38000021	NULL
alinem	kddddd	Alins	A	Alexname	3500022	1972-07-31	56431 Rice, Houston, TX	F	25000.00	38000022	350002
akiem	djd22	Akiee	J	Rin	3500023	1968-01-19	33241 Castle, Spring, TX	F	25000.00	38000023	350002
quaaem	kd282d	Qaanu	V	Maask	3500024	1969-03-29	9840 Dallas, Houston, TX	M	25000.00	38000024	350002
aliem	9dkxs	Alicia	J	Zelaya	350003	1968-01-19	3321 Castle, Spring, TX	F	25000.00	3800003	350002
ahmem	jkd7s	Ahmad	V	Jabbar	350004	1969-03-29	980 Dallas, Houston, TX	M	250300.00	3800004	350002
catem	0d8hd	Cathy	S	Wal	350005	1971-06-20	295 Berry, Bellaire, TX	F	430300.00	3800005	350002

a. INSERT new Employee Account

```
DELIMITER //
CREATE PROCEDURE ADD_EMP_ACC
(
    _USERNAME       VARCHAR(100),
    _DPASSWORD      VARCHAR(100),
    _FNAME          VARCHAR(15),
    _MINIT          CHAR,
    _LNAME          VARCHAR(15),
    _ID             CHAR(15),
    _BIRTHDAY       DATE,
    _ADDRESS        VARCHAR(100),
    _SEX            CHAR,
    _SALARY         DECIMAL(10,2),
    _PHONENUMBER    INT,
    _MANAGER_ID     CHAR(15)
)
BEGIN

    IF EXISTS ( SELECT * FROM EMPLOYEE_ACC WHERE ID = _ID) THEN
        SELECT 'That id is taken . Try another .' ;
    ELSEIF EXISTS ( SELECT * FROM EMPLOYEE_ACC WHERE USERNAME = _USERNAME ) THEN
```

```
        SELECT 'That username is taken . Try another . ' ;
    ELSEIF CHARACTER_LENGTH(_USERNAME) < 4  THEN
        SELECT 'That username is not available , must be longer than 3 character
.' ;
    ELSEIF CHARACTER_LENGTH(_DPASSWORD) < 4  THEN
        SELECT 'That password is not available , must be longer than 3 character
.' ;
    ELSEIF MID(_PHONENUMBER,0 , 1) != 0 THEN
        SELECT 'That phone number is not available , must be start by 0 .' ;
    ELSE INSERT INTO EMPLOYEE_ACC
        (USERNAME,DPASSWORD,FNAME,MINIT,LNAME,ID,BIRTHDAY,ADDRESS,SEX,SALARY,PHON
ENUMBER,MANAGER_ID)
         VALUES (_USERNAME,_DPASSWORD,_FNAME,_MINIT,_LNAME,_ID,_BIRTHDAY,_ADDRESS
,_SEX,_SALARY,_PHONENUMBER,_MANAGER_ID);
    END IF ;

END //
DELIMITER ;

CALL ADD_EMP_ACC('idolhat','password1','Giang', 'T', 'Pham', '3500025', '2000-03-
06', '650 Dallas, Houston, TX', 'M', 500 , 0941292933,'350002');
```

USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
neem	hsdiusd	Neil	A	English	3500012	1972-07-31	5331 Rice, Houston, TX	F	25000.00	38000012	350002
binem	dkjdsa	Binz	J	Zelae	3500013	1968-01-19	3341 Castle, Spring, TX	F	25000.00	38000013	350002
kumem	djkd	Kuma	V	Jabbar	3500014	1969-03-29	960 Dallas, Houston, TX	M	25000.00	38000014	350002
teeem	sodoss	Teena	S	Wallace	3500015	1971-06-20	591 Berry, Bellaire, TX	F	43000.00	38000015	350002
tinaem	kdjd9s	Tina	K	Narayan	3500016	1972-09-15	11275 Fire Oak, Humble, TX	M	38000.00	38000016	NULL
minem	38034c	Mins	A	Watson	3500017	1972-07-31	54631 Rice, Houston, TX	F	25000.00	38000017	350002
cobuem	039023l	cobu	J	Timse	3500018	1968-01-19	33231 Castle, Spring, TX	F	25000.00	38000018	350002
aliem	2092j	Ali	V	Ali	3500019	1969-03-29	9180 Dallas, Houston, TX	M	25000.00	38000019	350002
joyem	983id	Joyce	A	English	350002	1972-07-31	5631 Rice, Houston, TX	F	250300.00	3800002	350002
samem	093hd	Sam	S	Qaaed	3500020	1971-06-20	2291 Berry, Bellaire, TX	F	43000.00	38000020	350002
takem	ehkess	Takaa	K	Narayan	3500021	1972-09-15	9375 Fire Oak, Humble, TX	M	38000.00	38000021	NULL
alinem	kddddd	Alins	A	Alexname	3500022	1972-07-31	56431 Rice, Houston, TX	F	25000.00	38000022	350002
akiem	djd22	Akiee	J	Rin	3500023	1968-01-19	33241 Castle, Spring, TX	F	25000.00	38000023	350002
quaaem	kd282d	Qaanu	V	Maask	3500024	1969-03-29	9840 Dallas, Houston, TX	M	25000.00	38000024	350002
idolhat	password1	Giang	T	Pham	3500025	2000-03-06	650 Dallas, Houston, TX	M	500.00	941292933	350002
aliem	9dkxs	Alicia	J	Zelaya	350003	1968-01-19	3321 Castle, Spring, TX	F	25000.00	3800003	350002
ahmem	jkd7s	Ahmad	V	Jabbar	350004	1969-03-29	980 Dallas, Houston, TX	M	250300.00	3800004	350002
catem	0d8hd	Cathy	S	Wal	350005	1971-06-20	295 Berry, Bellaire, TX	F	430300.00	3800005	350002
robem	090shh	Robie	K	Naraee	350006	1972-09-15	955 Fire Oak, Humble, TX	M	38000.00	3800005	350002

b. UPDATE Employee Account (username , password)

```
DELIMITER //
CREATE PROCEDURE UPDATE_EMP_USER_PASS
(
    _USERNAME       VARCHAR(100),
```

```
    _DPASSWORD      VARCHAR(100),
    _ID             CHAR(15)
)
BEGIN

    IF EXISTS ( SELECT * FROM EMPLOYEE_ACC WHERE ID = _ID ) THEN
       IF CHARACTER_LENGTH(_USERNAME) < 4 AND NOT ISNULL(_USERNAME) THEN
            SELECT 'Username for updating is not available , length of username m
ust be longer than 3 character .';
       ELSEIF CHARACTER_LENGTH(_DPASSWORD) < 4 AND NOT ISNULL(_DPASSWORD) THEN
            SELECT 'Password for updating is not available , length of password m
ust be longer than 3 character .';
       ELSEIF EXISTS ( SELECT * FROM EMPLOYEE_ACC WHERE USERNAME = _USERNAME AND
DPASSWORD = _DPASSWORD ) THEN
            SELECT 'No any changed' ;
       ELSE
            IF ISNULL(_DPASSWORD) THEN
                UPDATE EMPLOYEE_ACC
                SET
                    USERNAME = _USERNAME
                WHERE
                    ID = _ID;
            ELSEIF ISNULL(_USERNAME) THEN
                UPDATE EMPLOYEE_ACC
                SET
                    DPASSWORD = _DPASSWORD
                WHERE
                    ID = _ID;

            ELSE
                UPDATE EMPLOYEE_ACC
                SET
                    USERNAME = _USERNAME,
                    DPASSWORD = _DPASSWORD
                WHERE
                    ID = _ID;
            END IF;

       END IF ;
    ELSE
        SELECT 'No available account .';
    END IF;
END //
```

```
DELIMITER ;

CALL UPDATE_EMP_USER_PASS('coolboy',NULL,'3500025');
```

USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
kumem	djkd	Kuma	V	Jabbar	3500014	1969-03-29	960 Dallas, Houston, TX	M	25000.00	38000014	350002
teeem	sodoss	Teena	S	Wallace	3500015	1971-06-20	591 Berry, Bellaire, TX	F	43000.00	38000015	350002
tinaem	kdjd9s	Tina	K	Narayan	3500016	1972-09-15	11275 Fire Oak, Humble, TX	M	38000.00	38000016	NULL
minem	38034c	Mins	A	Watson	3500017	1972-07-31	54631 Rice, Houston, TX	F	25000.00	38000017	350002
cobuem	039023l	cobu	J	Timse	3500018	1968-01-19	33231 Castle, Spring, TX	F	25000.00	38000018	350002
aliem	2092j	Ali	V	Ali	3500019	1969-03-29	9180 Dallas, Houston, TX	M	25000.00	38000019	350002
joyem	983id	Joyce	A	English	350002	1972-07-31	5631 Rice, Houston, TX	F	250300.00	3800002	350002
samem	093hd	Sam	S	Qaaed	3500020	1971-06-20	2291 Berry, Bellaire, TX	F	43000.00	38000020	350002
takem	ehkess	Takaa	K	Narayan	3500021	1972-09-15	9375 Fire Oak, Humble, TX	M	38000.00	38000021	NULL
alinem	kddddd	Alins	A	Alexname	3500022	1972-07-31	56431 Rice, Houston, TX	F	25000.00	38000022	350002
akiem	djd22	Akiee	J	Rin	3500023	1968-01-19	33241 Castle, Spring, TX	F	25000.00	38000023	350002
quaaem	kd282d	Qaanu	V	Maask	3500024	1969-03-29	9840 Dallas, Houston, TX	M	25000.00	38000024	350002
coolboy	password1	Giang	T	Pham	3500025	2000-03-06	650 Dallas, Houston, TX	M	500.00	941292933	350002
aliem	9dkxs	Alicia	J	Zelaya	350003	1968-01-19	3321 Castle, Spring, TX	F	25000.00	3800003	350002
ahmem	jkd7s	Ahmad	V	Jabbar	350004	1969-03-29	980 Dallas, Houston, TX	M	250300.00	3800004	350002
catem	0d8hd	Cathy	S	Wal	350005	1971-06-20	295 Berry, Bellaire, TX	F	430300.00	3800005	350002

c. DELETE Employee Account

```
DELIMITER //
CREATE PROCEDURE DELETE_EMP_ACC
( _ID   CHAR(15) )

BEGIN

    IF NOT EXISTS ( SELECT * FROM EMPLOYEE_ACC WHERE ID = _ID) THEN
        SELECT 'Employee is not available . Can not find any available id of empl
oyee .' ;
    ELSE
        DELETE FROM EMPLOYEE_ACC WHERE ID = _ID ;
    END IF ;

END //
DELIMITER ;


CALL DELETE_EMP_ACC('3500025');
```

USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
neem	hsdiusd	Neil	A	English	3500012	1972-07-31	5331 Rice, Houston, TX	F	25000.00	38000012	350002
binem	dkjdsa	Binz	J	Zelae	3500013	1968-01-19	3341 Castle, Spring, TX	F	25000.00	38000013	350002
kumem	djkd	Kuma	V	Jabbar	3500014	1969-03-29	960 Dallas, Houston, TX	M	25000.00	38000014	350002
teeem	sodoss	Teena	S	Wallace	3500015	1971-06-20	591 Berry, Bellaire, TX	F	43000.00	38000015	350002
tinaem	kdjd9s	Tina	K	Narayan	3500016	1972-09-15	11275 Fire Oak, Humble, TX	M	38000.00	38000016	NULL
minem	38034c	Mins	A	Watson	3500017	1972-07-31	54631 Rice, Houston, TX	F	25000.00	38000017	350002
cobuem	039023l	cobu	J	Timse	3500018	1968-01-19	33231 Castle, Spring, TX	F	25000.00	38000018	350002
aliem	2092j	Ali	V	Ali	3500019	1969-03-29	9180 Dallas, Houston, TX	M	25000.00	38000019	350002
joyem	983id	Joyce	A	English	350002	1972-07-31	5631 Rice, Houston, TX	F	250300.00	3800002	350002
samem	093hd	Sam	S	Qaaed	3500020	1971-06-20	2291 Berry, Bellaire, TX	F	43000.00	38000020	350002
takem	ehkess	Takaa	K	Narayan	3500021	1972-09-15	9375 Fire Oak, Humble, TX	M	38000.00	38000021	NULL
alinem	kddddd	Alins	A	Alexname	3500022	1972-07-31	56431 Rice, Houston, TX	F	25000.00	38000022	350002
akiem	djd22	Akiee	J	Rin	3500023	1968-01-19	33241 Castle, Spring, TX	F	25000.00	38000023	350002
quaaem	kd282d	Qaanu	V	Maask	3500024	1969-03-29	9840 Dallas, Houston, TX	M	25000.00	38000024	350002
aliem	9dkxs	Alicia	J	Zelaya	350003	1968-01-19	3321 Castle, Spring, TX	F	25000.00	3800003	350002
ahmem	jkd7s	Ahmad	V	Jabbar	350004	1969-03-29	980 Dallas, Houston, TX	M	250300.00	3800004	350002

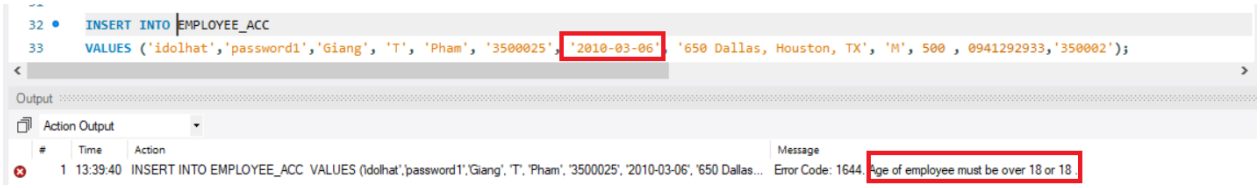
None employee id (3500025) is available .

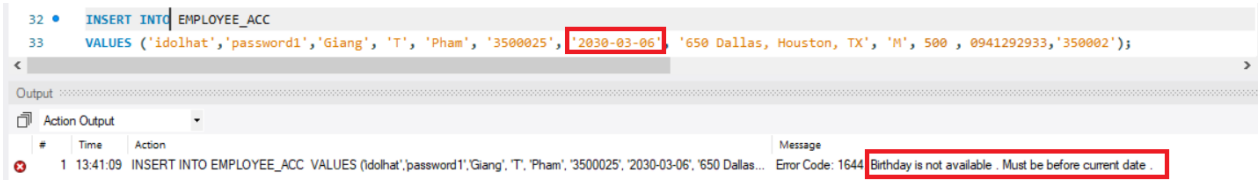
2.2 TRIGGER kiểm soát hành động INSERT , UPDATE , DELETE MYSQL

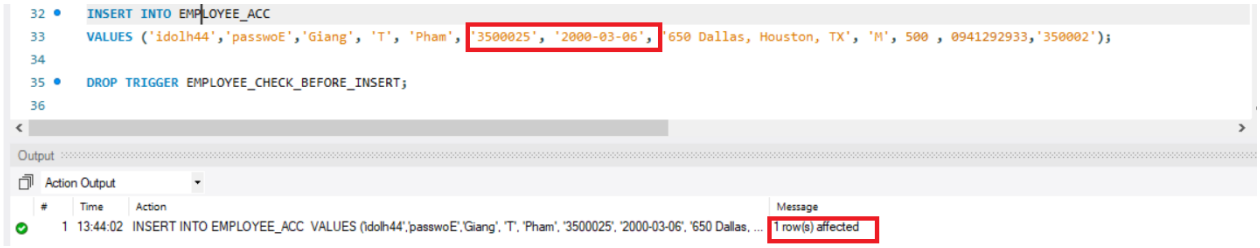
a. BEFORE INSERT

```
DELIMITER $$
CREATE TRIGGER EMPLOYEE_CHECK_BEFORE_INSERT
BEFORE INSERT
ON EMPLOYEE_ACC FOR EACH ROW
BEGIN
    DECLARE _DATE DATE ;
    DECLARE _CDATE DATE ;
    DECLARE _AGE INT ;
    SET _AGE = (SELECT YEAR(FROM_DAYS(TO_DAYS(NOW())-TO_DAYS(NEW.BIRTHDAY)))) ;
    SET _DATE = NEW.BIRTHDAY ;
    SET _CDATE =  CURRENT_DATE() ;

    IF NOT EXISTS ( SELECT * FROM EMPLOYEE_ACC WHERE ID = NEW.ID) THEN
        IF (_DATE  > _CDATE) THEN
            SIGNAL SQLSTATE '45000'
                SET MESSAGE_TEXT = 'Birthday is not available . Must be before cu
rrent date .' ;
        ELSE
            IF (_AGE <15) THEN
                SIGNAL SQLSTATE '45001'
                    SET MESSAGE_TEXT = 'Age of employee must be over 18 or 18 .'
;
            END IF ;
        END IF ;
```

```
    ELSE
        SIGNAL SQLSTATE '45002'
            SET MESSAGE_TEXT = 'That id of employee is taken . Try another . ' ;
    END IF ;

END $$

DELIMITER ;
```







USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
minem	38034c	Mins	A	Watson	3500017	1972-07-31	54631 Rice, Houston, TX	F	25000.00	38000017	350002
cobuem	039023l	cobu	J	Timse	3500018	1968-01-19	33231 Castle, Spring, TX	F	25000.00	38000018	350002
aliem	2092j	Ali	V	Ali	3500019	1969-03-29	9180 Dallas, Houston, TX	M	25000.00	38000019	350002
joyem	983id	Joyce	A	English	350002	1972-07-31	5631 Rice, Houston, TX	F	250300.00	3800002	350002
samem	093hd	Sam	S	Qaaed	3500020	1971-06-20	2291 Berry, Bellaire, TX	F	43000.00	38000020	350002
takem	ehkess	Takaa	K	Narayan	3500021	1972-09-15	9375 Fire Oak, Humble, TX	M	38000.00	38000021	NULL
alinem	kddddd	Alins	A	Alexname	3500022	1972-07-31	56431 Rice, Houston, TX	F	25000.00	38000022	350002
akiem	djd22	Akiee	J	Rin	3500023	1968-01-19	33241 Castle, Spring, TX	F	25000.00	38000023	350002
quaaem	kd282d	Qaanu	V	Maask	3500024	1969-03-29	9840 Dallas, Houston, TX	M	25000.00	38000024	350002
idolh44	passwoE	Giang	T	Pham	3500025	2000-03-06	650 Dallas, Houston, TX	M	500.00	941292933	350002
aliem	9dkxs	Alicia	J	Zelaya	350003	1968-01-19	3321 Castle, Spring, TX	F	25000.00	3800003	350002
ahmem	jkd7s	Ahmad	V	Jabbar	350004	1969-03-29	980 Dallas, Houston, TX	M	250300.00	3800004	350002
catem	0d8hd	Cathy	S	Wal	350005	1971-06-20	295 Berry, Bellaire, TX	F	430300.00	3800005	350002
robem	090shh	Robie	K	Naraee	350006	1972-09-15	955 Fire Oak, Humble, TX	M	38000.00	3800005	350002
jayem	9hdhd8	Jayee	A	Mad	350007	1972-07-31	5531 Rice, Houston, TX	F	250300.00	3800007	350002
alicem	y7sff	Alice	J	Nae	350008	1968-01-19	3621 Castle, Spring, TX	F	25000.00	3800008	350002

b. AFTER INSERT

```
DELIMITER $$
CREATE TRIGGER ITEMS_CHECK_AFTER_INSERT
AFTER INSERT
ON INFOR FOR EACH ROW
BEGIN
    UPDATE ITEMS SET INVENTORY = INVENTORY - NEW.QUANTITY
                WHERE ID = NEW.ITEMS_ID ;
END$$
DELIMITER ;
```

ID	DTYPE	DDESCRIPTION	DNAME	COLOR	RULES	IMAGES	SUPPLIER	INVENTORY
100000	Toy	Beautiful toy	Princess	red	NULL	NULL	China	100
100001	Shampoo	good shampoo for everyone	Miks	white	NULL	NULL	Japan	10
100002	Book	Comic book	Harry Potter	Yellow	NULL	NULL	UK	100
100003	Pencil	5B pencil	Micca	blue	NULL	NULL	India	100
100004	Laptop	Good choice	Acers	black	NULL	NULL	US	100

```
48 •  INSERT INTO INFOR
49    VALUES (15, 'm' , '3000', 10000, '2020-9-11','5000004','100000');
```

Output

Action Output

#	Time	Action	Message
1	13:49:39	INSERT INTO INFOR VALUES (15, 'm' , '3000', 10000, '2020-9-11','5000004','100000')	1 row(s) affected

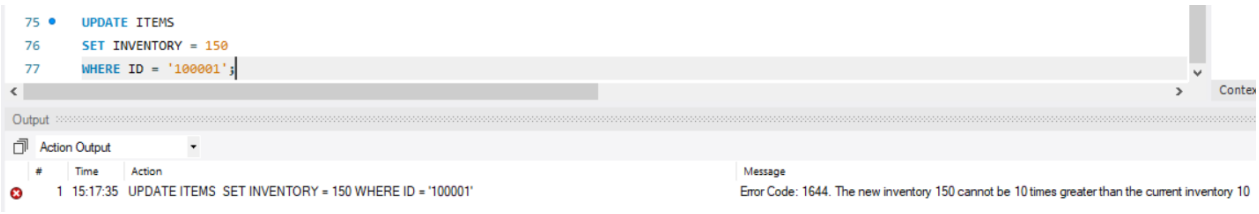
ID	DTYPE	DDESCRIPTION	DNAME	COLOR	RULES	IMAGES	SUPPLIER	INVENTORY
100000	Toy	Beautiful toy	Princess	red	NULL	NULL	China	85
100001	Shampoo	good shampoo for everyone	Miks	white	NULL	NULL	Japan	10
100002	Book	Comic book	Harry Potter	Yellow	NULL	NULL	UK	100
100003	Pencil	5B pencil	Micca	blue	NULL	NULL	India	100
100004	Laptop	Good choice	Acers	black	NULL	NULL	US	100

c. BEFORE UPDATE

ID	DTYPE	DDESCRIPTION	DNAME	COLOR	RULES	IMAGES	SUPPLIER	INVENTORY
100000	Toy	Beautiful toy	Princess	red	NULL	NULL	China	85
100001	Shampoo	good shampoo for everyone	Miks	white	NULL	NULL	Japan	10
100002	Book	Comic book	Harry Potter	Yellow	NULL	NULL	UK	100
100003	Pencil	5B pencil	Micca	blue	NULL	NULL	India	100
100004	Laptop	Good choice	Acers	black	NULL	NULL	US	100

```
DELIMITER $$

CREATE TRIGGER ITEMS_INVENTORY_CHECK
BEFORE UPDATE
ON ITEMS FOR EACH ROW
BEGIN
    DECLARE errorMessage VARCHAR(255);
    SET errorMessage = CONCAT('The new inventory ',
                        NEW.INVENTORY,
                        ' cannot be 3 times greater than the current inventory ',
                        OLD.INVENTORY);

    IF new.INVENTORY > old.INVENTORY * 3 THEN
        SIGNAL SQLSTATE '45000'
            SET MESSAGE_TEXT = errorMessage;
    END IF;
END $$

DELIMITER ;
```

```
UPDATE ITEMS
SET INVENTORY = 150
WHERE ID = '100001';
```



d. DELETE

```
CREATE TRIGGER EMP_DELETE_DRIVER
AFTER DELETE
ON EMPLOYEE_ACC FOR EACH ROW
DELETE FROM IN_TRANS_DEPT
```

```
WHERE DRIVER_ID = OLD.ID;

DELETE FROM EMPLOYEE_ACC
WHERE ID = '350009';
```

	ID	LICENSE	DRIVER_ID
▶	9000	59H 794	350005
	9001	60H 797	350006
	9002	49H 097	350007
	9003	58H 007	350008
	9004	59H 124	NULL

2.3 Tạo Thủ tục hiển thị MYSQL

	USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	PHONENUMBER	DEBT	DEBTTHRESHOLD	NAMEGROUP
▶	jamescus	123df	James	E	Borg	18120000	1977-11-10	450 Stone, Houston, TX	M	900000	0.00	500000.00	Class A
	Frankcus	1hj3h	Franklin	T	Wong	18120001	1995-12-08	638 Voss, Houston, TX	M	900001	1000.00	400000.00	Class B
	Johncus	jdhjd	John	B	Smith	18120002	1985-01-09	731 Fondren, Houston, TX	M	900002	0.00	300000.00	Class C
	jencus	jdh389@	Jennifer	S	Wallace	18120003	1981-06-20	291 Berry, Bellaire, TX	F	900003	3000.00	200000.00	Class D
	ramcus	38hcs	Ramesh	K	Narayan	18120004	1992-09-15	975 Fire Oak, Humble, TX	M	900004	500.00	100000.00	Class E

```
DELIMITER //
CREATE PROCEDURE ORDERED_NAMECUS ()
BEGIN
    SELECT C.FNAME, C.MINIT, C.LNAME , C.BIRTHDAY
    FROM CUSTOMER_ACC C,  DORDER D
        WHERE C.ID = D.CUS_ID
        GROUP BY C.FNAME, C.MINIT, C.LNAME , C.BIRTHDAY
        ORDER BY C.FNAME ASC ;
END //
DELIMITER ;

CALL ORDERED_NAMECUS();
```

	FNAME	MINIT	LNAME	BIRTHDAY
▶	Franklin	T	Wong	1995-12-08
	James	E	Borg	1977-11-10
	Jennifer	S	Wallace	1981-06-20
	Ramesh	K	Narayan	1992-09-15

```
DELIMITER //
CREATE PROCEDURE EMP_BIRTH_LIST ()
BEGIN
```

```
    SELECT COUNT(*) NUMBER_EMPLOYEE
    FROM EMPLOYEE_ACC
    WHERE EMPLOYEE.BIRTHDAY LIKE '1971%';
END //
DELIMITER ;
```

NUMBER_EMPLOYEE
5

```
DELIMITER //
CREATE PROCEDURE SUM_EMP_SALARY ()
BEGIN
    SELECT SUM(SALARY) SUM_SALARY
    FROM EMPLOYEE_ACC;
END //
DELIMITER ;
```

SUM_SALARY
2185220.00

```
DELIMITER //
CREATE PROCEDURE AVERAGE_SALARY_EMP ()
BEGIN
    SELECT AVG(SALARY) AVERAGE_SALARY
    FROM EMPLOYEE_ACC ;
END //
DELIMITER ;
```

AVERAGE_SALARY
87408.800000

2.4 Tạo Hàm MYSQL

```
DELIMITER //
CREATE FUNCTION ADDRESS_CUS (_ID CHAR(15))
RETURNS VARCHAR(100)
DETERMINISTIC
BEGIN
    DECLARE ADDRESS VARCHAR(100) ;

    IF NOT EXISTS(SELECT * FROM CUSTOMER_ACC WHERE ID = _ID) THEN
```

```
        RETURN -1 ;
    END IF ;

    SET ADDRESS = (SELECT SHIPADDRESS FROM DORDER WHERE  CUS_ID = _ID) ;
    RETURN ADDRESS ;
END;  //
DELIMITER  ;


SELECT ADDRESS_CUS ('18120001');
```

ADDRESS_CUS ('18120001')
470 Mina, Quevec, TX

ID	NOTE	SHIPADDRESS	CREATEDATE	DSTATUS	CUS_ID	SELL_ID
55000	NO NOTE	440 Stone, Bilane, TX	2020-01-10	COMPLETED	18120004	3500010
55001	NO NOTE	450 Stone, Houston, TX	2019-11-10	CANCEL	18120003	3500012
55002	NO NOTE	460 Wall, Houston, TX	2019-11-30	COMPLETED	18120003	3500013
55003	NO NOTE	470 Mina, Quevec, TX	2019-12-21	WAITING	18120001	3500014
55004	NO NOTE	480 Stone, Houston, TX	2020-11-20	COMPLETED	18120000	3500014

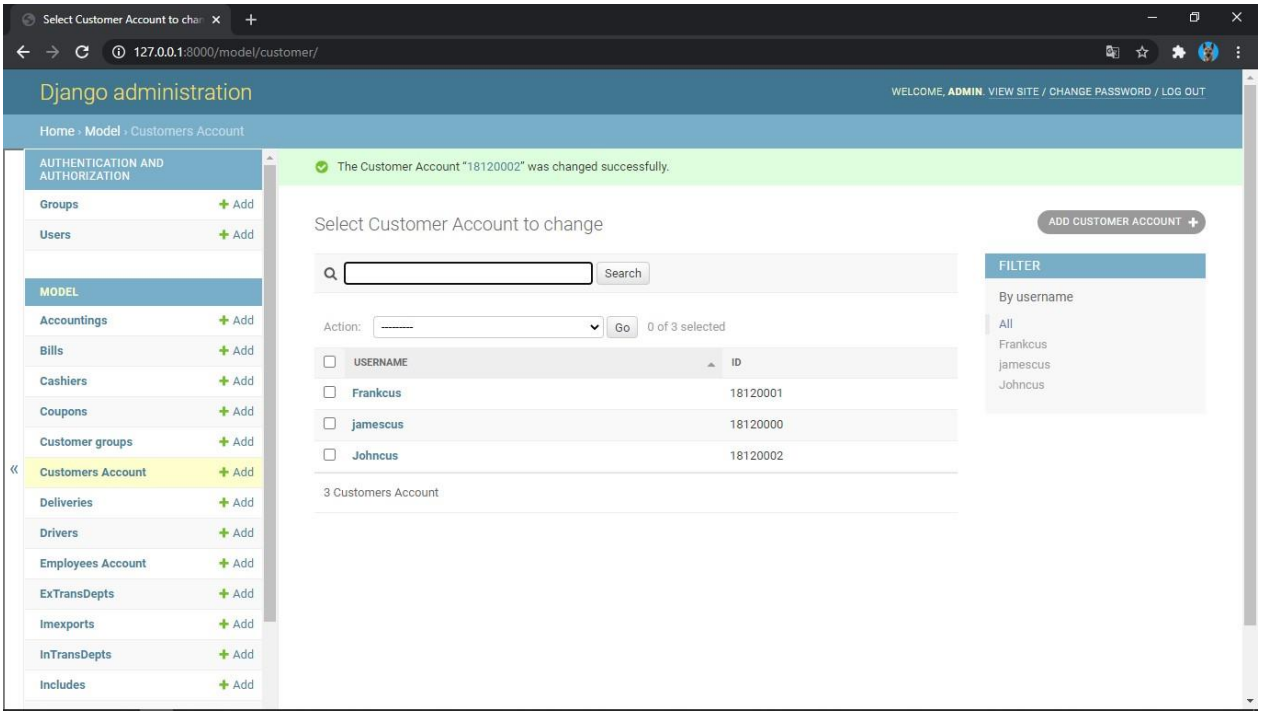
```
DELIMITER //
CREATE FUNCTION DATE_DRIVER (_ID CHAR(15))
RETURNS DATE
DETERMINISTIC
BEGIN
    DECLARE _DATE DATE ;
    DECLARE ID_  CHAR(15) ;
    IF NOT EXISTS(SELECT * FROM IN_TRANS_DEPT WHERE ID = _ID) THEN
        RETURN -1 ;
    END IF ;
    SET ID_ = (SELECT DRIVER_ID FROM IN_TRANS_DEPT WHERE ID = _ID) ;
    SET _DATE = (SELECT BIRTHDAY FROM EMPLOYEE_ACC WHERE ID = ID_) ;
    RETURN _DATE;
END;  //
DELIMITER  ;

SELECT DATE_DRIVER ('9004');
```

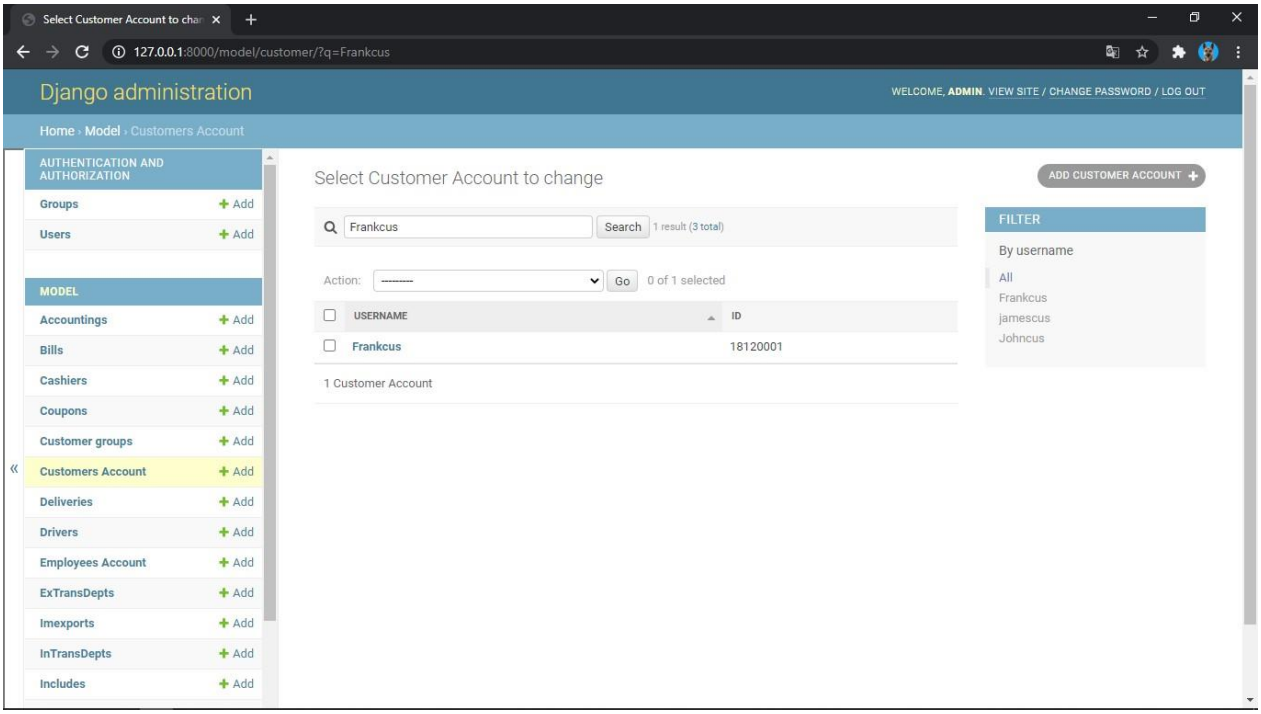
DATE_DRIVER ('9004')
1969-03-29

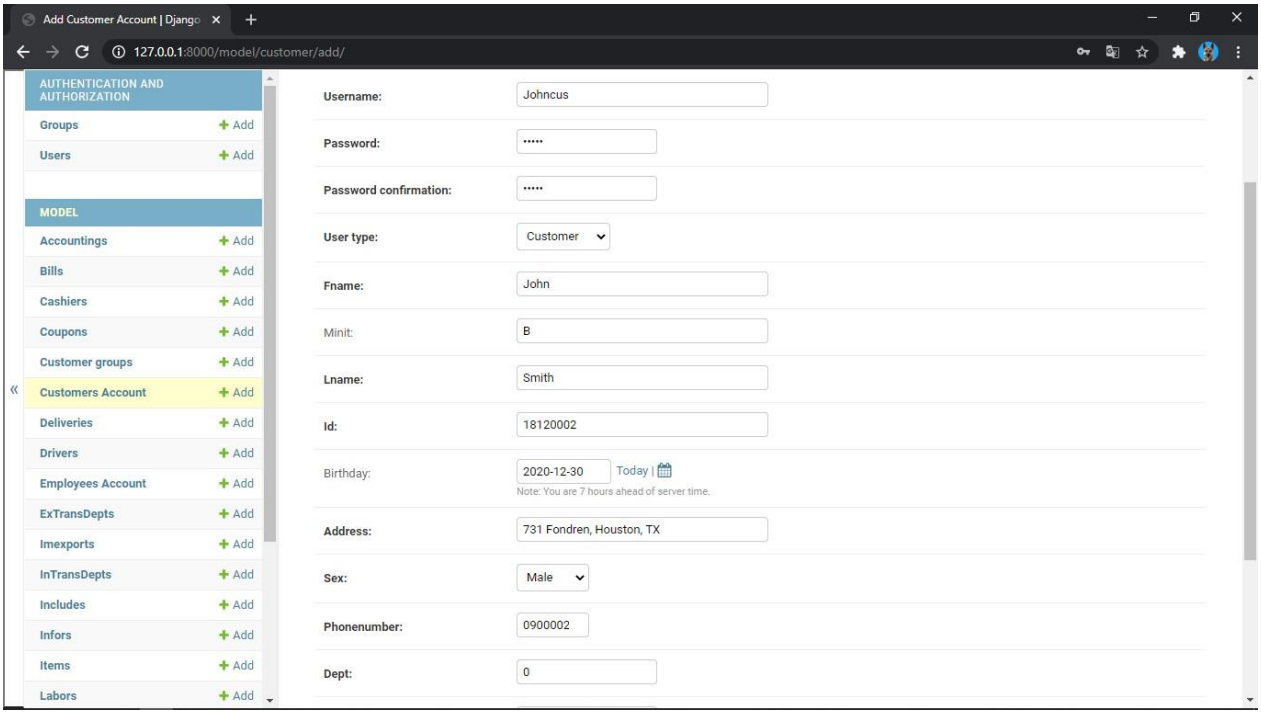
ID	LICENSE	DRIVER_ID
9000	59H 794	350005
9001	60H 797	350006
9002	49H 097	350007
9003	58H 007	350008
9004	59H 124	350009

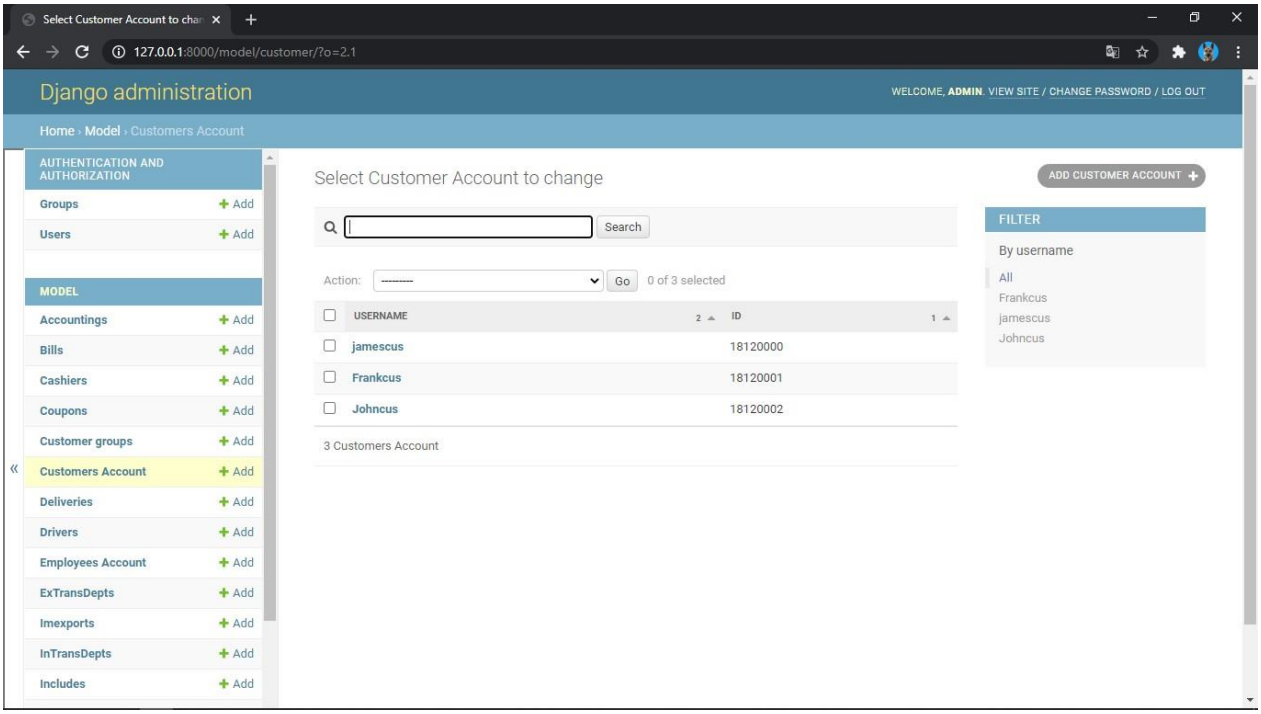
USERNAME	DPASSWORD	FNAME	MINIT	LNAME	ID	BIRTHDAY	ADDRESS	SEX	SALARY	PHONENUMBER	MANAGER_ID
ahmem	jkd7s	Ahmad	V	Jabbar	350004	1969-03-29	980 Dallas, Houston, TX	M	250300.00	3800004	350002
catem	0d8hd	Cathy	S	Wal	350005	1971-06-20	295 Berry, Bellaire, TX	F	430300.00	3800005	350002
robem	090shh	Robie	K	Naraee	350006	1972-09-15	955 Fire Oak, Humble, TX	M	38000.00	3800005	350002
jayem	9hdhd8	Jayee	A	Mad	350007	1972-07-31	5531 Rice, Houston, TX	F	250300.00	3800007	350002
alicem	y7sff	Alice	J	Nae	350008	1968-01-19	3621 Castle, Spring, TX	F	25000.00	3800008	350002
timem	dnkkdnk	Tim	V	Anbi	350009	1969-03-29	680 Dallas, Houston, TX	M	25000.00	3800009	350002

2.5 Web DEMO




Select Customer Account to cha
127.0.0.1:8000/model/customer/?q=Frankcus
Django administration
WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT
Home › Model › Customers Account
AUTHENTICATION AND AUTHORIZATION
Groups + Add
Users + Add
MODEL
Accountings + Add
Bills + Add
Cashiers + Add
Coupons + Add
Customer groups + Add
Customers Account + Add
Deliveries + Add
Drivers + Add
Employees Account + Add
ExTransDepts + Add
Imexports + Add
InTransDepts + Add
Includes + Add
Select Customer Account to change
ADD CUSTOMER ACCOUNT +
Frankcus
Search
1 result (3 total)
Action:
Go
0 of 1 selected
USERNAME
ID
Frankcus
18120001
1 Customer Account
FILTER
By username
All
Frankcus
jamescus
Johncus


Add Customer Account | Django
127.0.0.1:8000/model/customer/add/
AUTHENTICATION AND AUTHORIZATION
Groups + Add
Users + Add
MODEL
Accountings + Add
Bills + Add
Cashiers + Add
Coupons + Add
Customer groups + Add
Customers Account + Add
Deliveries + Add
Drivers + Add
Employees Account + Add
ExTransDepts + Add
Imexports + Add
InTransDepts + Add
Includes + Add
Infors + Add
Items + Add
Labors + Add
Username: Johncus
Password: •••••
Password confirmation: •••••
User type: Customer
Fname: John
Minit: B
Lname: Smith
Id: 18120002
Birthday: 2020-12-30 Today |
Note: You are 7 hours ahead of server time.
Address: 731 Fondren, Houston, TX
Sex: Male
Phonenumber: 0900002
Dept: 0


Select Customer Account to cha
127.0.0.1:8000/model/customer/?o=2.1
Django administration
WELCOME, ADMIN. VIEW SITE / CHANGE PASSWORD / LOG OUT
Home › Model › Customers Account
AUTHENTICATION AND AUTHORIZATION
Groups + Add
Users + Add
MODEL
Accountings + Add
Bills + Add
Cashiers + Add
Coupons + Add
Customer groups + Add
Customers Account + Add
Deliveries + Add
Drivers + Add
Employees Account + Add
ExTransDepts + Add
Imexports + Add
InTransDepts + Add
Includes + Add
Select Customer Account to change
ADD CUSTOMER ACCOUNT +
Search
Action: --------- Go 0 of 3 selected
USERNAME
ID
jamescus 18120000
Frankcus 18120001
Johncus 18120002
3 Customers Account
FILTER
By username
All
Frankcus
jamescus
Johncus