CREATE TABLE ShareHolder( PanNumber varchar(10)PRIMARY KEY, PhoneNo int CHECK (PhoneNo BETWEEN 1000000000 AND 99999999999), address varchar(50)NOT NULL,gender char(1) NOT NULL, Fname char(10)NOT NULL,Minit char(1),Lname char(10) NOT NULL);

CREATE TABLE Stocks( ISINCode varchar(12) PRIMARY KEY,Type char(15) NOT NULL);

CREATE TABLE Company( CIN varchar(21) PRIMARY KEY,name char(25) UNIQUE NOT NULL, RegOffAddr varchar(50) NOT NULL,

Phone int CHECK (Phone BETWEEN 1000000000 AND 9999999999),

Email varchar(20) UNIQUE,KPName char(20),KPDesig char(20),

KPPhone int CHECK (KPPhone BETWEEN 1000000000 AND 9999999999));

CREATE TABLE DepositoryParticipant( DPId varchar(20) PRIMARY KEY,Address varchar(50) NOT NULL, PhoneNo int CHECK (PhoneNo BETWEEN 1000000000 AND 9999999999), Email varchar(20) UNIQUE,DSPId varchar(20) NOT NULL, DPProviderName char(30) NOT NULL);

CREATE TABLE Bank( IFSCCode varchar(20),Address varchar(50) NOT NULL, PhoneNo int CHECK (PhoneNo BETWEEN 1000000000 AND 9999999999), Email varchar(20) UNIQUE,Name char(20) UNIQUE NOT NULL);

CREATE TABLE Broker( BrokerageCode varchar(20) PRIMARY KEY,Address varchar(50) NOT NULL, PhoneNo int CHECK (PhoneNo BETWEEN 1000000000 AND 9999999999), Email varchar(30) UNIQUE,Name char(15) UNIQUE NOT NULL, KPName char(20),KPDesig char(20),KPPhone int CHECK (KPPhone BETWEEN 1000000000 AND 9999999999));

CREATE TABLE Owns( Quantity int NOT NULL);

CREATE TABLE Has( DOJ date,BoughtFrom char(20),FolioNo int NOT NULL);

CREATE TABLE Issues( DOI date,NoOfShares int);

CREATE TABLE Trades( DebCred char(4),TransactionId varchar(20));

CREATE TABLE BuysThrough( Commission int NOT NULL);

alter table Stocks add CIN varchar(15);

alter table Stocks add Foreign Key(CIN)references Company(CIN);

alter table ShareHolder add BrokerageCode varchar (20);

alter table ShareHolder add Foreign Key(BrokerageCode) references Broker(BrokerageCode);

alter table Bank add BrokerageCode varchar (20);

alter table Bank add Foreign Key(BrokerageCode) references Broker(BrokerageCode);

alter table Owns add PanNumber varchar (10);

alter table Owns add Foreign Key(PanNumber) references ShareHolder(PanNumber);

alter table Owns add ISINCode varchar(12);

alter table Owns add Foreign Key(ISINCode) references Stocks(ISINCode);

alter table Has add CIN varchar(15);

alter table Has add Foreign Key(CIN) references Company(CIN);

alter table Has add PanNumber varchar(10);

alter table Has add Foreign Key(PanNumber) references ShareHolder(PanNumber);

alter table Issues add ISINCode varchar(12);

alter table Issues add Foreign Key(ISINCode) references Stocks(ISINCode);

alter table Issues add CIN varchar(21);

alter table Issues add Foreign Key(CIN) references Company(CIN);

alter table Trades add ISINCode varchar(12);

alter table Trades add Foreign Key(ISINCode) references Stocks(ISINCode);

alter table Trades add BrokerageCode varchar (20);

alter table Trades add Foreign Key(BrokerageCode) references Broker(BrokerageCode);

alter table Trades add IFSCCode varchar (20);

alter table Trades add Foreign Key(IFSCCode) references Bank(IFSCCode);

alter table Trades add Price int;

alter table Trades add Quantity int;

alter table BuysThrough add Primary Key(PanNumber);

alter table BuysThrough add Foreign Key(PanNumber) references ShareHolder(PanNumber);

alter table BuysThrough add BrokerageCode varchar (20);

alter table BuysThrough add Foreign Key(BrokerageCode) references Broker(BrokerageCode);

alter table BuysThrough add ISINCode varchar(12);

alter table BuysThrough add Foreign Key(ISINCode) references Stocks(ISINCode);

alter table BuysThrough add Quantity int;

CREATE TABLE HoldsAccount(PanNumber varchar(10),DPId varchar(20),Foreign Key(PanNumber) references ShareHolder(PanNumber),Foreign Key(DPId) references DepositoryParticipant(DPId));

alter table ShareHolder alter column PhoneNo TYPE bigint;

alter table Company alter column Phone TYPE bigint;

alter table Company alter column KPPhone TYPE bigint;

alter table DepositoryParticipant alter column PhoneNo TYPE bigint;

alter table Bank alter column PhoneNo TYPE bigint;

alter table Broker alter column PhoneNo TYPE bigint;

alter table Broker alter column KPPhone TYPE bigint;

alter table Broker drop KPname;

alter table Broker drop KPDesig;

alter table Broker drop KPPhone;

alter table ShareHolder ADD CONSTRAINT check\_gender CHECK(gender IN ('M','F'));

alter table DepositoryParticipant ADD CONSTRAINT check\_DSP CHECK(DSPId IN ('CDSL','NSDL'));

alter table Trades ADD CONSTRAINT check\_DC CHECK(DebCred IN ('Deb','Cred'));

CREATE TABLE HasAccount(IFSCCode varchar(20),BrokerageCode varchar(20),Foreign Key(IFSCCode) references Bank(IFSCCode),Foreign Key(BrokerageCode) references Broker(BrokerageCode));

alter table bank drop column brokeragecode;

alter table HasAccount add Amount bigint;

alter table Issues add Price\_Per\_Share int;

alter table issues add column StocksLeft int;