**Appendix A:**

create table Department(

Dept\_name varchar(60),

Building varchar(60),

Budget int,

constraint pk\_department primary key([Dept\_name])

);

create table Librarian(

Librarian\_id varchar(60),

Librarian\_name varchar(60),

Designation varchar(60),

Cell\_num varchar(60),

constraint pk\_librarian primary key([Librarian\_id])

);

create table Book(

Book\_id varchar(60),

Book\_name varchar(60),

Category varchar(60),

Publication varchar(60),

Price int,

constraint pk\_book primary key([Book\_id])

);

create table Ward(

Ward\_no varchar(60),

Category varchar(60),

Building varchar(60),

constraint pk\_ward primary key([Ward\_no])

);

create table Doctor(

Doctor\_id varchar(60),

Doc\_name varchar(60),

Dept\_name varchar(60),

Salary int,

Phone\_num varchar(60),

constraint pk\_doctor primary key([Doctor\_id]),

constraint fk\_doctor foreign key([Dept\_name]) references Department(Dept\_name)

);

create table Student(

Student\_id varchar(60),

Stu\_name varchar(60),

Dept\_name varchar(60),

Total\_credit float,

constraint pk\_student primary key([Student\_id]),

constraint fk\_student foreign key([Dept\_name]) references Department([Dept\_name])

);

create table Course(

Course\_id varchar(60),

Tittle varchar(60),

Dept\_name varchar(60),

Credit float,

constraint pk\_course primary key([Course\_id]),

constraint fk\_course foreign key([Dept\_name]) references Department([Dept\_name])

);

create table Takes(

Student\_id varchar(60),

Course\_id varchar(60),

Takes\_year varchar(60),

Grade varchar(60),

constraint pk\_takes primary key([Student\_id],[Course\_id],[Takes\_year]),

constraint fk\_takes1 foreign key([Student\_id]) references Student,

constraint fk\_takes2 foreign key([Course\_id]) references Course

);

create table Teaches(

Doctor\_id varchar(60),

Course\_id varchar(60),

Teaches\_year varchar(60),

constraint pk\_teaches primary key([Doctor\_id],[Course\_id],[Teaches\_year]),

constraint fk\_teaches1 foreign key([Doctor\_id]) references Doctor,

constraint fk\_teaches2 foreign key([Course\_id]) references Course

);

create table Issue\_book(

Student\_id varchar(60),

Book\_id varchar(60),

Issue\_date date,

Return\_date date,

constraint pk\_ibook primary key([Student\_id],[Book\_id],[Issue\_date]),

constraint fk\_ibook1 foreign key([Student\_id]) references Student,

constraint fk\_ibook2 foreign key([Book\_id]) references Book

);

create table Email(

Librarian\_id varchar(60),

Student\_id varchar(60),

Message varchar(600),

Msg\_date date,

constraint pk\_email primary key([Librarian\_id],[Student\_id],[Message],[Msg\_date]),

constraint fk\_email1 foreign key([Student\_id]) references Student,

constraint fk\_email2 foreign key([Librarian\_id]) references Librarian

);

create table Patient(

Patient\_id varchar(60),

Patient\_name varchar(60),

Patient\_disease varchar(60),

Bed\_no varchar(60),

Assigned\_doctor varchar(60),

Ward\_no varchar(60),

constraint pk\_patient primary key([Patient\_id]),

constraint fk\_patient foreign key([Ward\_no]) references Ward(Ward\_no),

constraint fk\_patient2 foreign key([Assigned\_doctor]) references Doctor(Doctor\_id)

);

create table Bill (

Bill\_no varchar(60),

Patient\_id varchar(60),

Amount int,

constraint pk\_bill primary key([Bill\_no]),

constraint fk\_bill foreign key([Patient\_id]) references Patient

);

**Appendix B:**

insert into Department values('clinical','TYLOR',30000000),

('para-clinical','WATSON',40000000);

insert into Librarian values('666','Romiz Uddin','Head','01848898999'),

('667','Sifat Hossien','Assistant Head','019965665667'),

('668','Zihan Khan','Assistant','017778799898'),

('669','Zabir Rahman','Assistant','016669696969'),

('670','Abul Kashem','Assistant','01675556689'),

('671','Rashed Khan','Assistant','01675556658'),

('672','Ragib Noor','Assistant','01675556664');

insert into Book values('760','General Anatomy','Medical','GLG',750),

('761','Physiology','Medical','CNC',450),

('762','Biochemistry','Medical','DLD',350),

('763','Human Histology','Medical','NLN',700),

('764','Human Embryology','Medical','KLL',900),

('765','Principles of Neural Science','Medical','LKL',800),

('766','Skin Cancer: Recognition and Management','Medical','NSN',600),

('767','Schwartzs Principles of Surgery','Medical','NPN',1000),

('768','Principles of Internal Medicine','Medical','SLS',950),

('769','Gross Anatomy','Medical','DYD',560),

('770','Blackberry Winter','Biography','GLG',200),

('771','Valentino','Biography','CNC',250),

('772','Swans','Biography','GLG',200),

('773','The Edge of Memory','Biography','DLD',400),

('774','Sea Prayer','Biography','NLN',500),

('775','War Like a Local','Fiction','GLG','200'),

('776','THE ROGER BROOK SERIES STARTER','Fiction','GLG',350),

('777','THE SWORD OF FATE','Fiction','DLD',300),

('778','UNCHARTED SEAS','Fiction','NLN',200),

('779','Holy Terror','Horror','KLL',350),

('780','Trauma','Horror','LKL',400),

('781','House of Bones','Horror','LKL',500),

('782','The Satanist','Horror','KLL',300),

('783','Made out of Stars','Inspiration','NSN',200),

('784','My Friend Fear','Inspiration','SLS',600),

('785','Start Where You Are','Inspiration','NPN',600),

('786','Coders','Education','NSN',200),

('787','Learn C','Education','CNC',200),

('788','C','Education','NPN',700),

('789','Java','Education','DLD',700),

('790','Sharp C','Education','NSN',800),

('791','Physics For All','Education','SLS',900),

('792','Vector','Education','DYD',500),

('793','Database','Education','GLG',200),

('794','Hound of the Vaskerbills','Detective','DYD',380),

('795','Adventure of the Empty House','Detective','DYD',250),

('796','Scandal in Bohemia','Detective','SLS',210),

('797','Chader Pahar','Fiction','DYD',520),

('798','The Secret Garden','Inspiration','NPN',330),

('799','Shikar','Horror','LKL',120),

('800','Life Without Limits','Inspiration','NSN',280),

('801','The Final Problem','Fiction','KLL',180),

('802','Satyanneshi Byomkesh','Detective','DYD',420),

('803','Hattyapuri','Detective','DYD',260),

('804','The Brown Hand','Detective','CNC',780),

('805','Sheyal Debota Rahassha','Detective','CNC',380),

('806','Gangtok e Gondogol','Detective','KLL',380),

('807','The Giving Tree','Inspiration','NLN',670),

('808','Best Adventures of Sherlock','Detective','DLD',580),

('809','Zombies','Horror','CNC',160);

insert into Ward values ('1A','burn unit','RH'),

('1B','coronary care unit','Packard'),

('1C','emergency unit','Painter'),

('1D','acute medical unit ','Packard'),

('2A','geriatric intensive- care unit','Painter'),

('2B','neonatal intensive care unit ','RH'),

('2C','pediatric intensive care unit ','Packard');

insert into Doctor values('031','dr. abdullah','clinical',50000,'01521207638'),

('032','dr. zarif','clinical',80000,'01944149959'),

('033','dr. imrul','clinical',90000,'01712369871'),

('034','dr. salman ali','clinical',100000,'01676600767'),

('035','dr. fahim','para-clinical',60000,'0176669990'),

('036','dr. showrav','para-clinical',70000,'01199788779'),

('037','dr. susmita','para-clinical',65000,'01981718789'),

('038','dr. nila','para-clinical',100000,'0174568928');

insert into Student values('18101','ahmed zamil','clinical',20.5),

('18102','zafar ali','clinical',20.5),

('18103','soma','clinical',24.0),

('18104','Hatem Tai','clinical',20.5),

('18105','Nyeem Azgar','clinical',21.5),

('18106','Shorif miya','clinical',22.5),

('18107','sophiya','clinical',23.5),

('18108','Hossain Sordar','clinical',20.5),

('18109','nirob','clinical',45.5),

('18110','simona','clinical',46.5),

('18111','rekah','clinical',48.5),

('18112','nazmul','clinical',49.0),

('18113','sakib','clinical',46.0),

('18114','taskin','clinical',45.5),

('18115','tanzil','clinical',46.5),

('18116','priya','clinical',46.5),

('18117','nayma','clinical',72.5),

('18118','akhi','clinical',74.0),

('18119','noyon','clinical',73.5),

('18120','jibon','clinical',70.5),

('18121','jisan','clinical',72.5),

('18122','joyonto','clinical',74.0),

('18123','niloy','clinical',72.5),

('18124','nibir','clinical',73.5),

('18201','antor','para-clinical',21.0),

('18202','labib','para-clinical',22.5),

('18203','hiron','para-clinical',21.5),

('18204','minhaz','para-clinical',24.5),

('18205','nakib','para-clinical',21.5),

('18206','sondip','para-clinical',21.5),

('18207','mow','para-clinical',21.5),

('18208','kona','para-clinical',21.5),

('18209','shakil','para-clinical',46.5),

('18210','shawon','para-clinical',46.5),

('18211','rony','para-clinical',46.5),

('18212','shojol','para-clinical',47.5),

('18213','rubel','para-clinical',48.5),

('18214','munna','para-clinical',49.5),

('18215','anik','para-clinical',49.5),

('18216','shojib','para-clinical',47.5),

('18217','hasif','para-clinical',71.5),

('18218','shorif','para-clinical',71.5),

('18219','momin','para-clinical',71.5),

('18220','arman','para-clinical',72.5),

('18221','hanif','para-clinical',73.5),

('18222','altaf','para-clinical',74.0),

('18223','bokul','para-clinical',74.5),

('18224','kotha','para-clinical',72.5);

insert into Course values('MDE-101','medicine','clinical',4.0),

('GO-102','gynea & obs','clinical',4.5),

('PA-103','paediatrics','clinical',4.0),

('PSY-104','psychiatry','clinical',4.0),

('DM-105','dermatology','clinical',4.5),

('ORT-106','orthopedics','clinical',4.5),

('CAR-107','cardiology','clinical',4.5),

('OPTH-108','ophthalmology','clinical',4.0),

('PA-201','pathology','para-clinical',4.5),

('PHAR-202','pharmacology','para-clinical',4.5),

('MIC-203','microbiology','para-clinical',4.5),

('FOM-204','forensic medicine','para-clinical',4.5),

('COM-205','community medicine','para-clinical',4.0),

('ANA-206','anatomy','para-clinical',4.5),

('PHY-207','physiology','para-clinical',4.5),

('BIO-208','biochemistry','para-clinical',4.5);

insert into Takes values('18101','MDE-101','2017','A'),

('18102','GO-102','2017','A-'),

('18103','MDE-101','2017','B'),

('18104','GO-102','2017','B+'),

('18107','MDE-101','2017','C+'),

('18108','GO-102','2017','D'),

('18109','PA-103','2017','C+'),

('18110','PSY-104','2017','C-'),

('18113','PA-103','2017','B-'),

('18114','PSY-104','2017','A'),

('18115','PA-103','2017','A+'),

('18116','PSY-104','2017','A+'),

('18119','DM-105','2017','A-'),

('18120','ORT-106','2017','A'),

('18121','DM-105','2017','A'),

('18122','ORT-106','2017','B+'),

('18103','PA-103','2018','B-'),

('18104','PSY-104','2018','B'),

('18105','PA-103','2018','B'),

('18106','PSY-104','2018','B-'),

('18109','DM-105','2018','A-'),

('18110','ORT-106','2018','D'),

('18111','DM-105','2018','F'),

('18112','ORT-106','2018','F'),

('18115','DM-105','2018','A+'),

('18116','ORT-106','2018','C'),

('18117','CAR-107','2018','C-'),

('18118','OPTH-108','2018','D'),

('18121','CAR-107','2018','A'),

('18122','OPTH-108','2018','B'),

('18123','CAR-107','2018','A-'),

('18124','OPTH-108','2018','B-'),

('18203','PA-201','2017','B'),

('18204','PHAR-202','2017','A+'),

('18205','PA-201','2017','B+'),

('18206','PHAR-202','2017','A-'),

('18209','MIC-203','2017','B-'),

('18210','FOM-204','2017','D'),

('18211','MIC-203','2017','C'),

('18212','FOM-204','2017','A'),

('18215','MIC-203','2017','C+'),

('18216','FOM-204','2017','C-'),

('18217','COM-205','2017','A-'),

('18218','ANA-206','2017','B'),

('18221','COM-205','2017','D'),

('18222','ANA-206','2017','C-'),

('18223','COM-205','2017','A'),

('18224','ANA-206','2017','B-'),

('18201','MIC-203','2018','D'),

('18202','FOM-204','2018','C+'),

('18203','MIC-203','2018','C-'),

('18204','FOM-204','2018','A+'),

('18207','MIC-203','2018','A'),

('18208','FOM-204','2018','C+'),

('18209','COM-205','2018','A-'),

('18210','ANA-206','2018','B-'),

('18213','COM-205','2018','C'),

('18214','ANA-206','2018','C-'),

('18215','COM-205','2018','A'),

('18216','ANA-206','2018','B'),

('18219','PHY-207','2018','B+'),

('18220','BIO-208','2018','B-'),

('18221','PHY-207','2018','D'),

('18222','BIO-208','2018','C+');

insert into Teaches values('031','MDE-101','2017'),

('032','GO-102','2017'),

('033','PA-103','2017'),

('034','PSY-104','2017'),

('033','DM-105','2017'),

('034','ORT-106','2017'),

('031','CAR-107','2018'),

('032','OPTH-108','2018'),

('033','PA-103','2018'),

('034','PSY-104','2018'),

('033','DM-105','2018'),

('034','ORT-106','2018'),

('035','PA-201','2017'),

('036','PHAR-202','2017'),

('037','MIC-203','2017'),

('038','FOM-204','2017'),

('037','COM-205','2017'),

('038','ANA-206','2017'),

('035','PHY-207','2018'),

('036','BIO-208','2018'),

('037','MIC-203','2018'),

('038','FOM-204','2018'),

('037','COM-205','2018'),

('038','ANA-206','2018');

insert into Issue\_book values('18107','760','2017-10-16','2017-10-26'),

('18109','760','2017-11-22','2017-12-05'),

('18107','783','2018-01-08','2018-01-26'),

('18106','795','2018-01-29','2018-02-05'),

('18203','763','2018-02-26',null),

('18108','768','2018-03-14','2018-03-22'),

('18115','765','2018-04-06','2018-05-02'),

('18212','801','2018-04-24','2018-05-16'),

('18104','770','2018-05-08','2018-05-28'),

('18101','786','2018-05-12','2018-05-21'),

('18106','772','2018-06-15','2018-06-28'),

('18121','764','2018-06-22','2018-07-10'),

('18108','798','2018-07-02','2018-07-22'),

('18205','806','2018-07-19',null),

('18101','769','2018-08-03',null);

insert into Email values('669','18107','Return the Book','2018-01-22'),

('668','18203','Return the Book','2018-03-10'),

('670','18203','Pay for the Book','2018-03-24'),

('671','18115','Return the Book','2018-04-20'),

('672','18212','Return the Book','2018-05-08'),

('670','18104','Return the Book','2018-05-22'),

('668','18121','Return the Book','2018-07-06'),

('672','18108','Return the Book','2018-07-16'),

('669','18205','Return the Book','2018-08-03');

insert into Patient values('1610','karim','pneumonia','102','031','1A'),

('1611','rahim','Blood Pressure','103','032','1B'),

('1612','jamil','skin','104','033','1C'),

('1613','sohel','fever','105','034','1D'),

('1614','mita','diabetes','106','035','2A'),

('1615','mira','overweight','107','036','2B'),

('1616','mona','stroke','108','037','2C'),

('1617','soma','influenza','109','038','1A'),

('1618','noman','foot & mouth','201','031','1B'),

('1619','silviya','fascioliasis','202','032','1C'),

('1620','abir','malaria','203','033','1D'),

('1621','akib','dengue','204','034','2A'),

('1622','asif','typhoid','205','035','2B'),

('1623','sorna','viral fevers','206','036','2C'),

('1624','asma','cholera','207','037','1A'),

('1625','payel','hepatitis B','208','038','1B');

insert into Bill values('16101031','1610',20000),

('16101032','1611',30000),

('16101033','1612',100000),

('16101034','1613',1200000),

('16101035','1614',200000),

('16101036','1615',2200000),

('16101037','1616',400000),

('16101038','1617',500000),

('16101039','1618',60000),

('16101040','1619',70000),

('16101041','1620',80000),

('16101042','1621',90000),

('16101043','1622',550000),

('16101044','1623',110000),

('16101045','1624',330000),

('16101046','1625',40000),

('16101047','1621',10000),

('16101048','1614',20000),

('16101049','1610',30000),

('16101050','1610',25000);