Relational Algebra's of all queries in Assignment 1.
6.0
1) P - T (Patient 1D, Patient Name, Gender, Contact Details) (Patients)
P2 - 6 (Gender = 'Fernale' 1 (contact atails like 4.59 y contact actails like 46')
PAM - BARROUSE Brain And Appointment [ Medical Staff
PAM - Patients Partitionates Appointments Medical staff Rational Bational Staff Staff 10 - Staff 10 - Staff 10 - Staff 10
Result - 6 ( poctorGender = 'Fernale' 1 PoctorName = 'Sarrah') (PAM)
[n. C. I Ctall)
2) M = 6 (Role = 'Nurse' 1 (Date of Birth - current Date) (30) (Medical Staff)
Result ← T (staffname) (M)
3) PA - Brand Patients Appointments
PatientID = PatientID
PAz = 6 (gender = Male) (PA)
PA2 (Appointment parte Time 3 (PA=))
Pault - The traction (PA2)
Result T(Appointment10) (PA2)
Touta)
4) T - Titulo, cost) (Testis)
Result = (cost 3 (T))
5) 6 (Appointmentante Time > current Date) (Appointments)
6) PM - Patients Medical Stoff
LostName = LastName
Rebult = (Lastname 3 (PM))
7) PB - Patients Billing
PatientID = PatientID
(00)
Result - 6 (PatientID = NULL) (PB)
8) Result - 6 (Medication Name, Posage, Instructions) (Medications)
9) PB - Billing D Patients
PatientID = PatientID

Result _ 6 (Partierner) = NLVL) (PB)
10) (PAM) - Patients Appointments Medical Records
PatientID = PatientID = PatientID
Complete and the second
Results _ 6 (Record 10 & NULL) (PAM)
CITCLE IN COLUMN TO A COLUMN T
11) T - Patients D Appointments
PatientID = PatientID
T2 - T Medical Records
PatientID = PatientID
T2 e T2 D Billing
PatientID = PatientIP
T3  — 6 (Appointment 1D is NOT NULLY Record 1D is NOT NULLY Billing 1D) (T2) is NOT NULLY
Result — T (Patientio, Patient Name) (73)
12) T   Patients Appointments
Patient10 = Patient10
Ty - T Medical staff
staffID = staffID
T2 - T2 Deportments
Reportment 10 = Reportment 10
T3  6 (Department Name = cordiology) (T2)
Result ( TatientID, PatientName) (T3)
13) T   Medical Staff   Medical Records
staffID = staffID
$T_2 \leftarrow T \qquad Patients$
Patient 10 = Patient 10
T2 = T1 Billing
PatientID = PatientID
T3   G ( Date of Birth > 1990-01-01 A Payment Status = Paid) (T2)

Result $\leftarrow T$ (stay[Name) (T3)
14) T   — Patients
PatientID = PatientID
T2  6 (stody = schooled y status = completed) (T)
Result  To (Patient 10, Patient Name) (T2)
15) T - Patients Medical Records Billing
PadientID = PatientID PatientID = PatientID
6.9
Result ← T (PatientID, PatientName) (T)
16) T ← Patients I Medical Records
Patient10 = Patient10
T12 — T T Texts
TestResults like 'Xray' V TestName = X-ray
T2 T1 D Appointments
PatientsD = PatientsD
T3 — T2 I Medical staff
staffip = Staffip
Ty = 6 ( staff Name = Lisa wang) (T3)
Result ( Patient 10, Patient Name) (T4)
17) T
stayio = stayio
T2 - T Patients
PatientID = PatientID
$C_1 \leftarrow 3(count(Deptid))(T_2)$
C2 = 3 (count (DeptiD)) (Departments)

Result $\leftarrow \pi$ (Patient ID, Patient Name) (F)  18) $T \leftarrow Medications                                    $	$F \leftarrow C_2 = C_2$
18) T \( \text{Medications} \) Patients \\ \text{Patient1D} : Patient1D \\ \text{T2} \( \text{Count(NedicationName)} \) \( \text{2} \) \( \text{(Extient1D} \) = \( \text{Patient1D} \) PatientName, \( \text{NedicationName} \) \( \text{T2} \) \( \text{Patient1D} \) PatientName, \( \text{NedicationName} \) \( \text{T2} \) \( \text{Patient1D} \) PatientName, \( \text{NedicationName} \) \( \text{T2} \) \( \text{Patient1D} \) PatientName \( \text{Patient1D} \) PatientName \( \text{Patient1D} \) \( \text{Patient2D} \) \( \text{Patient1D} \) \( \text{Patient2D} \) \( \text{Patient3D} \) \( \text{Patient3D} \) \( \text{Patient3D} \) \( \text{Patient4D} \) \( Pa	$r = c_1 = c_2$
Patient   Patient   S(count (Medication Name) > 2) (€) (F)  Result ← T (Patient   D), Patient Name, Medication Name) (T1)  19) T ← Patient Appointments  Patient   D = Patient    Patient   Deportment    Dept   D = Dept   D  Pesult ← T (Patient   D), Patient Name, Deportment Name) (T3)  Pesult ← T (Patient   D), Patient Name, Deportment Name) (T3)  20) T ← Patient   Medical Records  Patient   D = Patient   D  Patient   D = Patient   D  Patient	Result < T (Patient 10, Patient Name) (F)
T1 — G (Patient 1D = (Patient 1D ) (Count (Medication Name) > 2)) (8)) (7)  Result — T (Patient 1D, Patient Name, Medication Name) (T1)  19) T — Patients Appointments  Patient 1D = Patient 1D  T1 — T Medical Staff  Retirul 1D = Patient 1D  T2 — T2 Department y  Dept 1D = Dept 1D  T3 — G (Status = Scheduled) (T2)  Pesult — T (Patient 1D, Patient Name, Department Name) (T3)  20) T — Patient 1D Medical Records  Patient 1D Appointment 1  Staff 1D = Staff 1D  T2 — T1 Appointment 1	
Result $\leftarrow \pi$ (Ratient10, PatientName, Medication Name) (T1)  19) $T \leftarrow Patients$ Appointments  Patient10 = Patient10  T1 $\leftarrow T$ Medical Staff  Ration110 = Patient10  T2 $\leftarrow T_2$ Departments  Dept1D = Dept1D  T3 $\leftarrow G$ (Status = Scheduled) (T2)  Result $\leftarrow \pi$ (Patient10, PatientName, DepartmentName) (T3)  20) $T \leftarrow Patients$ Medical Records  Patient1D = Patient1D  T1 $\leftarrow T$ Appointments  Staff1D = Staff1D	Patien40 = Patient10
19) T  Patients Appointments  PatientID = PatientID  To Medical Staff  PatientID - PatientID  To Departments  DeptID = DeptID  To Gestatus = Scheduled) (To)  Result To (PatientID, PatientName, DepartmentName) (To)  PatientID = PatientID  To Patients Medical Records  PatientID = PatientID  To Appointments  StaffID = StaffID	T1 - 6 (Patient 1D = (Patient 1D 3 (count (Medication Name) > 2)) (8))
PatientID = PatientID  T1  T2  T2  T3  Departments  DeptID = DeptID  T3  6 (Status = Scheduled) (T2)  Result  T (PatientIO, PatientName, DepartmentName) (T3)  PatientID = Patients  Medical Records  PatientID = PatientID  T1  T2  T1  Appointments  StaffID = StaffID	Result < T (Patient 10, Patient Name, Medication Name) (T2)
PatientID = PatientID  T1  T2  T2  T3  Departments  DeptID = DeptID  T3  6 (Status = Scheduled) (T2)  Result  T (PatientIO, PatientName, DepartmentName) (T3)  PatientID = Patients  Medical Records  PatientID = PatientID  T1  T2  T1  Appointments  StaffID = StaffID	19) T - Patients Appointments
T1 — T Medical Staff  Rational D - Patient D  Departments  Dept D = Dept D  T3 — G (Status = Scheduled) (T2)  Result — T (Patient 10, Patient Name, Department Name) (T3)  20) T — Patients — Medical Records  Patient D = Patient D  T1 — T Appointments  Staff D = Staff D  T2 — T1 Medical Staff	
Patient 10 - Patient 10  T2  T2  Departments  Dept 10 = Dept 10  T3  6 (Status = Scheduled) (T2)  Result  T (Patient 10, Patient Name, Department Name) (T3)  20)  T  Patient  Medical Records  Patient 10 = Patient 10  T1  T1  Appointments  Staff 10 = Staff 10  Medical Staff	
T2 — T2 Departments  Deptid = Deptid  T3 — 6 (Status = Scheduled) (T2)  Result — To (Patientio, PatientName, DepartmentName) (T3)  20) T — Patients — Medical Records  Patientio = Patients  Staffio = Staffio  T2 — T1 Medical Staff  Medical Staff	T2 — T Medical Staff
DeptiD = DeptiD  T3   6 (Status = Scheduled) (T2)  Result   N (Patients), PatientName, DeportmentName) (T3)  20) T   Patients   Medical Records  PatientiD = PatientID  T1   T1   Appointments  Staff 10 = Staff 1D  Medical Staff	Patient10 = Patient10
DeptiD = DeptiD  T3   6 (Status = Scheduled) (T2)  Result   N (Patients), PatientName, DeportmentName) (T3)  20) T   Patients   Medical Records  PatientiD = PatientID  T1   T1   Appointments  Staff 10 = Staff 1D  Medical Staff	Al a
DeptID = DeptID  T3  6 (Status = Scheduled) (T2)  Result  7 (Patient10, PatientName, DeportmentName) (T3)  20) T  Patients  Medical Records  PatientID = PatientID  T1  T1  Appointments  Staff D = Staff D  Medical Staff	T2 — T2 Departments
Pesult  \( \tau \tau \) (Patients), PatientName, DeportmentName) (\( \tau \) (\( \tau \))  20) \( \tau \) \( \text{Patients} \) \( \text{Medical Records} \)  Patient10 = Patient1D  \[ \tau \) \( \text{T1} \) \( \text{Appointments} \)  Staff 10 = Staff 1D  Medical Staff	
Pesult  \( \tau \tau \) (Patients), PatientName, DeportmentName) (\( \tau \) (\( \tau \))  20) \( \tau \) \( \text{Patients} \) \( \text{Medical Records} \)  Patient10 = Patient1D  \[ \tau \) \( \text{T1} \) \( \text{Appointments} \)  Staff 10 = Staff 1D  Medical Staff	
20) T = Patients   Medical Records  Patient10 = Patient1D  T1 = T   Appointments  Staff 10 = Staff 10  T2 = T1   Medical Staff	13 € 6 (status = scheduled) (12)
PatientID = PatientID  T1 T Appointments  StaffID = StaffID  T2 T1 Medical Staff	Result   — \(\tau(\text{Patient10}, \text{PatientName}, \text{DeportmentName})(\tag{73})
PatientID = PatientID  T1 — T Appointments  StaffID = StaffID  T2 — T1 Medical Staff	20) T = Patients Medical Records
StaffID = StaffID  T2  T1 Medical Staff	
StaffID = StaffID  T2  T1 Medical Staff	
T2 = T1 Medical Staff	To To Appointments
T2 T1 Medical Staff	Staffio = Staffio
Stallin = Stallin	T2 T1 Medical Staff
and to a dis	staffin = staffin
	7=1
Result - M (Patient Name, Diagnosis, Treatment, Staymane) (72)	Result (PatientName, Diagnosis, Treatment, Staymone) (12)

Relational Algebra for all queries in Assignment 2.02
1) T = Users Wurlord
USINID = USINID
Ta — T Cards
CordNum = CordNum
T2 = 6 (cordNum = (cordNum 3 (MAX (Balance)) (Cords)) (T2)}
O (Covanium = (carativam () (min (bulance)) (and o))) / 1
Result < T (userio, Name) (T2)
2) T = Cords   Cordiype
coetiype1D = covd Type1D
To the T Surveyed
cordNum = cordNum
$T_2 \leftarrow 6 (usonin = 1) (T_1)$
C (Motion = 1) C
Result $\leftarrow \top_{(cordiype1D, Name)}(T_2)$
3) T   — Cards
CordingeID = cordingeID
T <sub>1</sub> = T Usurcard
cord Num = cord Num
T2 T2 Users
USINIO = USINIO
VIII V
T3
Result ← T (cordType 1D, Name) (T3)
Ui .

4) T   — Cands     Usercord
cord Num = cord Num
T2 — T Users
USUNIO = USUNIO
T <sub>2</sub> = 6 (city = Moscow) (T <sub>1</sub> )
4
The was the (MANNE VERDENCEDED) WINED
CAMPAGE CORDINARY
The state of the s
T3 = 6 (using = (3(Max(Balance))(Corros))) (T2)
Ty - T (userio, Balance) (T3)
Result \( \int galance \) (\( \frac{3}{\text{(SUM(Balance)}})(\text{T4}) \)
5) T Cards Cardiype
cordiype10 = cordiype10
OI OI
$T_2 \leftarrow T $ usurcord
cordNum = cordNum
$T_2 \leftarrow T_1$ Usors
WIND = WIND
T3 = 6 (GRANGE = Debit 1 (Balance > (3 (Avg (Balance)) (Coros))) (T2)
T3 = 6 (Grane = Debit 1 (Balance > (3 (Avg (Balance)) (Coros))) (T2)
Result T (usurname) (73)

6) T = Carols   Condige
cordiype10 = cordiype10
T1 — T Usurcord
condNum = cordNum
$T_2 \leftarrow T_2$ Usors
T2 - 12 Users  white = users
V90110 2 V90110
T3
Ty \( 6 (cordname = credit) (T2)
Ty \( 6 (cordname = Credit) (T2)
$Ts \leftarrow (T_3 \cap T_4)$
Result ( T (usurName) (Ts)
7) T   — Corrols
coretiype 1D = coretiype 1D
- Meta Staff
T1 — T Wercond
corrdNum = cordNum
T2 T2 Usurs
usurid = usurid
T3  G (cardName = Debit 1 city like 'V1.') (T2)
Result. \( \int_{\text{(Average Balance)}} \left( \frac{3(Avg(Balance))(\textit{73})}{} \right) \)