**DB ASSIGNMENT 3**

**Umamah Hussain**

**21L-1858**

**--1. List female patients whose contact number ends with 5 or 6 and were treated by “dr.sarah”**

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| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName, P.Contact, M.StaffID,concat (M.FirstName, ' ',M.LastName ) as StaffName  from Patient P  inner join Appointments A on A.PatientID=P.PatientID  inner join MedicalStaff M on M.StaffID=A.StaffID  where M.FirstName='Sarah' and P.Gender='F' and (P.Contact like '%5' or P.Contact like '%6') |  |

**--2. list all nurses younger than 30**

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| --- | --- |
| select M.StaffID, concat (M.FirstName, ' ',M.LastName ) as StaffName,M.Roles, M.DOB as age  from MedicalStaff M  where M.Roles='Nurse' and DATEDIFF(year,M.DOB,getdate())<30 |  |

**--3. Retrieve appointments with a "Scheduled" status for male patients (ordered by appointment date)**

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| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName,P.Gender, A.Statuses ,A.AppointmentDate  from Patient P  inner join Appointments A on A.PatientID=P.PatientID  where A.Statuses='Scheduled' and P.Gender='M'  order by A.AppointmentDate asc |  |

**--4. Retrieve the top 3 most expensive tests along with their descriptions**

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| --- | --- |
| select top(3) T.TestID, T.TestName,T.Cost,T.TestDescription  from Tests T  order by T.cost desc |  |

**--5. Find all appointments scheduled for the future**

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| --- | --- |
| select\* from Appointments A  where A.Statuses='Scheduled' |  |

**--6. List patients who have the same last name as any medical staff (ordered by last name)**

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| --- | --- |
| select concat (P.FirstName, ' ',P.LastName ) as PatientName, concat (M.FirstName, ' ',M.LastName ) as StaffName  from Patient P  inner join MedicalStaff M on M.LastName=P.LastName  order by P.LastName asc, M.LastName asc |  |

**--7/9. Identify Patients Who Haven't Received a Bill**

|  |  |
| --- | --- |
| select A.PatientID  from Appointments A  except  select B.PatientID  from Billing B |  |

**--8. List All Medications and Their Usage Instructions:**

|  |  |
| --- | --- |
| select\* from Medications |  |

**--10. Find Patients Who Have Appointments But No Medical Records**

|  |  |
| --- | --- |
| select P.PatientID,concat (P.FirstName, ' ',P.LastName ) as PatientName  from Patient P  inner join Appointments A on A.PatientID=P.PatientID  left join MedicalRecords M on M.PatientID=A.PatientID where M.PatientID is null  order by P.PatientID asc |  |

**--11. Find Patients Who Have Appointments, Medical Records, or Bills**

|  |  |
| --- | --- |
| select distinct P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName  from Appointments A, Patient P, Billing B, MedicalRecords M  where P.PatientID=A.PatientID OR P.PatientID=B.PatientID OR P.PatientID=M.PatientID |  |

**--12. Find all patients who have had appointments with doctors in the 'Cardiology' department.**

|  |  |
| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName, concat (M.FirstName, ' ',M.LastName ) as StaffName, M.Department  from Patient P  inner join Appointments A on A.PatientID=P.PatientID  inner join MedicalStaff M on M.StaffID=A.StaffID  where M.Department='Cardiology' and M.Roles='Doctor' |  |

**--13. Find the doctors (medical staff) who have treated patients born after 1990 and have 'Paid' billing status.**

|  |  |
| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName, P.DOB ,concat (M.FirstName, ' ',M.LastName ) as StaffName, B.PaymentStatus  from Patient P  inner join Appointments A on P.PatientID=A.PatientID  inner join Billing B on A.PatientID=B.BillID  inner join MedicalStaff M on M.StaffID=A.StaffID  where B.PaymentStatus='Paid' and P.DOB>'1990-12-12'  order by P.PatientID asc |  |

**--14. List all patients who have either 'Scheduled' or 'Completed' appointments.**

|  |  |
| --- | --- |
| select distinct P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName  from Patient P  inner join Appointments A on A.PatientID=P.PatientID  where A.Statuses='Scheduled' or A.Statuses='Completed' |  |

**--15. Find all patients who have both a medical record and a billing record.**

|  |  |
| --- | --- |
| select distinct P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName  from Patient P, MedicalRecords M, Billing B  where P.PatientID=M.PatientID and P.PatientID=B.PatientID |  |

**--16. Get a list of patients who have undergone the 'X-ray' test or have been treated by 'Dr. Lisa Wang'**

|  |  |
| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName, concat (MS.FirstName, ' ',MS.LastName ) as StaffName,T.TestName  from Patient P  inner join MedicalRecords M on M.PatientID=P.PatientID  inner join MedicalStaff MS on M.StaffID=MS.StaffID  inner join Tests T on M.TestID=T.TestID  where MS.FirstName='Lisa' and MS.LastName='Wang' or T.TestName='X-ray'  order by PatientID asc |  |

**--17. Find all patients who have had appointments with doctors in every department**

|  |  |
| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName  from Patient P  where  (  select count(distinct M.DepID)  from MedicalStaff M  inner join Appointments A on A.StaffID=M.StaffID  where  A.PatientID=P.PatientID  )=(select count(D.DepID) from Departments D) |  |

**--18. Find patients who have received at least two different medications,**

**--along with the list of medications they have received.**

|  |  |
| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName, count(M.MedID) as Meds  from Patient P  inner join MedicalRecords M on M.PatientID=P.PatientID  group by P.PatientID,concat (P.FirstName, ' ',P.LastName )  having count(distinct M.MedID)>=2 |  |

**--19. List the names of patients who have scheduled appointments along with the department they are associated with**

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| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName,concat (M.FirstName, ' ',M.LastName ) as StaffName,M.Department  from Patient P  inner join Appointments A on P.PatientID=A.PatientID  inner join MedicalStaff M on M.StaffID=A.StaffID |  |

**--20. Retrieve the names of patients along with their medical records, including diagnosis and**

**--treatment, and the names of the doctors who treated them**

|  |  |
| --- | --- |
| select P.PatientID, concat (P.FirstName, ' ',P.LastName ) as PatientName, concat (M.FirstName, ' ',M.LastName ) as StaffName,A.Diagnosis,A.Treatment  from Patient P  inner join MedicalRecords A on A.PatientID=P.PatientID  inner join MedicalStaff M on A.StaffID=M.StaffID |  |

**Q.2**

1. **Write a sql query that uses a subquery to find the users who have cards with a balance greater**

**than the balance of all users.**

|  |  |
| --- | --- |
| Select \* from Users u  Where EXISTS  ( select \* from UserCards uc  Join Cards c on c.cardNum=uc.CardNum  Join Cards c1 on c.balance>cq.balance  Where uc.UserId=u.UserId) |  |

1. **Write a SQL query that uses a subquery to find the card type of MemberID = 1**

|  |  |
| --- | --- |
| select C.cardnum, C.cardtypeid  from cards C  where C.cardnum in  (  select UC.cardnum  from usercard UC  where UC.UserId=1  ) |  |

1. **Write a SQL query that uses a subquery to find the card type of members from the city 'Dublin.'**

|  |  |
| --- | --- |
| select C.cardnum,C.cardtypeid  from cards C  where C.cardnum=  (  select UC.cardnum  from usercard UC  where UC.UserId=  (  select U.UserID  from users U  where U.City='Dublin'  )) |  |

1. **Write a SQL subquery to find the total balance across all cards for the user with the highest balance among the users in Moscow**

|  |  |
| --- | --- |
| select sum(C.balance)  from cards C  where C.cardnum=  (  select UC.cardnum  from usercard UC  where UC.UserId =  (  select U.UserID  from users U  where U.City='Moscow'  )) |  |

1. **Write a SQL subquery to find the names of users who have Debit card and a card balance greater**

**than average card balance of all users.**

|  |  |
| --- | --- |
| select U.UserID, U.Namee  from users U  where U.UserID in  (  select UC.UserId  from usercard UC  where UC.cardnum in  (  select C.cardnum  from cards C  where C.cardtypeid in(  select CT.cardtypeid  from cardtype CT  where CT.namee='Debit'  ) and C.balance>(select avg(C.balance) from cards C)  ) ) |  |

1. **Write a SQL subquery to find the names of the users who have both Debit and credit cards.**

|  |  |
| --- | --- |
| select U.UserID, U.Namee  from users U  where U.UserID in  (  select UC.UserId  from usercard UC  where UC.cardnum in  (  select C.cardnum  from cards C  where C.cardtypeid in  (  select CT.cardtypeid  from cardtype CT  where CT.namee='Debit'  ) and UC.cardnum in (  select CT.cardtypeid  from cardtype CT  where CT.namee='Credit'  )) ) |  |

1. **Write a SQL subquery to find the avg balance of the users who have Debit card and live in cities starting with letter V.**

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| --- | --- |
|  |  |