

Задание ПБД

Да се проектира и реализира база от данни за БОЛНИЦА, която да съхранява следната информация:

- Пациент име, ЕГН,
- Лекар - специалност, име, телефон;
- Лечение пациент, лекуващ лекар, дата, продължителност, диагноза

Правила:

- Всеки пациент не може да има повече от едно лечение в едно и също време,
- Всеки лекар има една специалност.

Базата данни трябва да е НОРМАЛИЗИРАНА и да позволява:

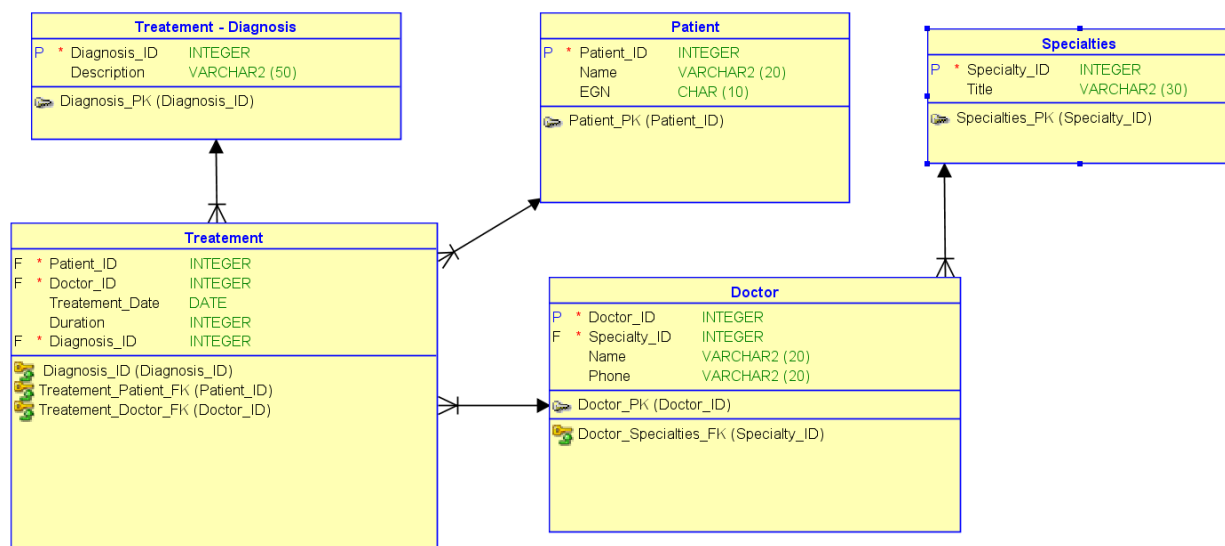
1. Въвеждане и корекция на данни
2. Търсене по: пациент, лекар, диагноза
3. Справки за:

- Лечения на пациент, подредени по дата,
- Лечения за лекар, подредени по диагноза,
- Всички лечения за период.

Документацията към реализирания проект трябва да съдържа:

- Задание
- Модели (Oracle Data Modeler)
- SQL команди - DDL, DML
- PL/SQL процедури/тригери/курсори

Модели (Oracle Data Modeler)



Database_Root/

- Patient/
 - Patient_ID (INT, Primary Key)
 - Name (VARCHAR(20), NOT NULL)
 - EGN (CHAR(10), UNIQUE, NOT NULL)
- Specialties/
 - Specialty_ID (INT, Primary Key)
 - Title (VARCHAR2(30), NOT NULL)
- Doctor/
 - Doctor_ID (INT, Primary Key)
 - Specialty_ID (INT, Foreign Key -> Specialties.Specialty_ID)
 - Name (VARCHAR(20), NOT NULL)
 - Phone (VARCHAR(20))
- Treatment_Diagnosis/
 - Diagnosis_ID (INT, Primary Key)
 - Description (VARCHAR(60), NOT NULL)
- Treatment/
 - Treatment_ID (INT, Primary Key)
 - Patient_ID (INT, Foreign Key -> Patient.Patient_ID)
 - Doctor_ID (INT, Foreign Key -> Doctor.Doctor_ID)
 - Treatment_Date (DATE, NOT NULL)
 - Duration (INT)
 - Diagnosis_ID (INT, Foreign Key -> Treatment_Diagnosis.Diagnosis_ID)

SQL команди - DDL, DML

- DDL

```
CREATE TABLE Patient (  
    Patient_ID INT PRIMARY KEY,  
    Name VARCHAR(20) NOT NULL,  
    EGN CHAR(10) UNIQUE NOT NULL  
);
```

```
CREATE TABLE Specialties (  
    Specialty_ID INT PRIMARY KEY,  
    Title VARCHAR2(30) NOT NULL  
);
```

```
CREATE TABLE Doctor (  
    Doctor_ID INT PRIMARY KEY,  
    Specialty_ID INT,  
    Name VARCHAR(20) NOT NULL,  
    Phone VARCHAR(20),  
    FOREIGN KEY (Specialty_ID) REFERENCES Specialties(Specialty_ID)  
);
```

```
CREATE TABLE Treatment_Diagnosis (  
    Diagnosis_ID INT PRIMARY KEY,  
    Description VARCHAR(60) NOT NULL  
);
```

```
CREATE TABLE Treatment (  
    Treatment_ID INT PRIMARY KEY,  
    Patient_ID INT,  
    Doctor_ID INT,  
    Treatment_Date DATE NOT NULL,  
    Duration INT,  
    Diagnosis_ID INT,  
    FOREIGN KEY (Patient_ID) REFERENCES Patient(Patient_ID),  
    FOREIGN KEY (Doctor_ID) REFERENCES Doctor(Doctor_ID),  
    FOREIGN KEY (Diagnosis_ID) REFERENCES Treatment_Diagnosis(Diagnosis_ID)  
);
```

- DML команди - INSERT, UPDATE , DELETE

Пациенти:

1. Patient1 (EGN: 100000001)
2. Patient2 (EGN: 100000002)
3. Patient3 (EGN: 100000003)
4. Patient4 (EGN: 100000004)
5. Patient5 (EGN: 100000005)
6. Patient6 (EGN: 100000006)
7. Patient7 (EGN: 100000007)
8. Patient8 (EGN: 100000008)
9. Patient9 (EGN: 100000009)
10. Patient10 (EGN: 1000000010)
11. Patient11 (EGN: 1000000011)
12. Patient12 (EGN: 1000000012)
13. Patient13 (EGN: 1000000013)
14. Patient14 (EGN: 1000000014)
15. Patient15 (EGN: 1000000015)
16. Patient16 (EGN: 1000000016)
17. Patient17 (EGN: 1000000017)
18. Patient18 (EGN: 1000000018)
19. Patient19 (EGN: 1000000019)
20. Patient20 (EGN: 1000000020)

Специалности:

1. Specialty1
2. Specialty2
3. Specialty3
4. Specialty4
5. Specialty5
6. Specialty6
7. Specialty7
8. Specialty8
9. Specialty9
10. Specialty10
11. Specialty11
12. Specialty12
13. Specialty13
14. Specialty14
15. Specialty15
16. Specialty16
17. Specialty17
18. Specialty18
19. Specialty19

Доктори:

1. Doctor1 (Специалност: Specialty1, Телефон: 0880000001)
 2. Doctor2 (Специалност: Specialty2, Телефон: 0880000002)
 3. Doctor3 (Специалност: Specialty3, Телефон: 0880000003)
 4. Doctor4 (Специалност: Specialty4, Телефон: 0880000004)
 5. Doctor5 (Специалност: Specialty5, Телефон: 0880000005)
 6. Doctor6 (Специалност: Specialty6, Телефон: 0880000006)
 7. Doctor7 (Специалност: Specialty7, Телефон: 0880000007)
 8. Doctor8 (Специалност: Specialty8, Телефон: 0880000008)
 9. Doctor9 (Специалност: Specialty9, Телефон: 0880000009)
 10. Doctor10 (Специалност: Specialty10, Телефон: 0880000010)
 11. Doctor11 (Специалност: Specialty11, Телефон: 0880000011)
 12. Doctor12 (Специалност: Specialty12, Телефон: 0880000012)
 13. Doctor13 (Специалност: Specialty13, Телефон: 0880000013)
 14. Doctor14 (Специалност: Specialty14, Телефон: 0880000014)
 15. Doctor15 (Специалност: Specialty15, Телефон: 0880000015)
 16. Doctor16 (Специалност: Specialty16, Телефон: 0880000016)
 17. Doctor17 (Специалност: Specialty17, Телефон: 0880000017)
 18. Doctor18 (Специалност: Specialty18, Телефон: 0880000018)
 19. Doctor19 (Специалност: Specialty19, Телефон: 0880000019)
 20. Doctor20 (Специалност: Specialty20, Телефон: 0880000020)
-

Диагнози:

1. Diagnosis1
 2. Diagnosis2
 3. Diagnosis3
 4. Diagnosis4
 5. Diagnosis5
 6. Diagnosis6
 7. Diagnosis7
 8. Diagnosis8
 9. Diagnosis9
 10. Diagnosis10
 11. Diagnosis11
 12. Diagnosis12
 13. Diagnosis13
 14. Diagnosis14
 15. Diagnosis15
 16. Diagnosis16
 17. Diagnosis17
 18. Diagnosis18
 19. Diagnosis19
 20. Diagnosis20
-

Лечения:

1. Patient1 е лекуван от Doctor1 на 2023-01-01 за Diagnosis1 (30 дни).
2. Patient2 е лекуван от Doctor2 на 2023-02-01 за Diagnosis2 (15 дни).
3. Patient3 е лекуван от Doctor3 на 2023-03-01 за Diagnosis3 (20 дни).
4. Patient4 е лекуван от Doctor4 на 2023-04-01 за Diagnosis4 (10 дни).
5. Patient5 е лекуван от Doctor5 на 2023-05-01 за Diagnosis5 (25 дни).
6. Patient6 е лекуван от Doctor6 на 2023-06-01 за Diagnosis6 (18 дни).
7. Patient7 е лекуван от Doctor7 на 2023-07-01 за Diagnosis7 (15 дни).
8. Patient8 е лекуван от Doctor8 на 2023-08-01 за Diagnosis8 (20 дни).
9. Patient9 е лекуван от Doctor9 на 2023-09-01 за Diagnosis9 (10 дни).
10. Patient10 е лекуван от Doctor10 на 2023-10-01 за Diagnosis10 (25 дни).
11. Patient11 е лекуван от Doctor11 на 2023-11-01 за Diagnosis11 (30 дни).
12. Patient12 е лекуван от Doctor12 на 2023-12-01 за Diagnosis12 (15 дни).
13. Patient13 е лекуван от Doctor13 на 2023-11-01 за Diagnosis13 (20 дни).
14. Patient14 е лекуван от Doctor14 на 2023-10-01 за Diagnosis14 (10 дни).
15. Patient15 е лекуван от Doctor15 на 2023-09-01 за Diagnosis15 (25 дни).
16. Patient16 е лекуван от Doctor16 на 2023-08-01 за Diagnosis16 (18 дни).
17. Patient17 е лекуван от Doctor17 на 2023-07-01 за Diagnosis17 (15 дни).
18. Patient18 е лекуван от Doctor18 на 2023-06-01 за Diagnosis18 (20 дни).
19. Patient19 е лекуван от Doctor19 на 2023-05-01 за Diagnosis19 (10 дни).
20. Patient20 е лекуван от Doctor20 на 2023-04-01 за Diagnosis20 (25 дни).
21. Patient1 е лекуван от Doctor2 на 2023-02-01 за Diagnosis2 (30 дни).
22. Patient1 е лекуван от Doctor3 на 2023-03-01 за Diagnosis3 (25 дни).
23. Patient1 е лекуван от Doctor4 на 2023-04-01 за Diagnosis4 (15 дни).
24. Patient1 е лекуван от Doctor5 на 2023-05-01 за Diagnosis5 (30 дни).
25. Patient1 е лекуван от Doctor6 на 2023-06-01 за Diagnosis6 (20 дни).
26. Patient1 е лекуван от Doctor7 на 2023-07-01 за Diagnosis7 (18 дни).
27. Patient1 е лекуван от Doctor8 на 2023-08-01 за Diagnosis8 (25 дни).
28. Patient2 е лекуван от Doctor9 на 2023-02-15 за Diagnosis9 (14 дни).

...

• INSERT

--DATA-----

```
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (1, 'Patient1', '100000001');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (2, 'Patient2', '100000002');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (3, 'Patient3', '100000003');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (4, 'Patient4', '100000004');
INSERT INTO Patient (Patient_ID, Name, EGN)
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```
VALUES (5, 'Patient5', '100000005');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (6, 'Patient6', '100000006');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (7, 'Patient7', '100000007');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (8, 'Patient8', '100000008');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (9, 'Patient9', '100000009');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (10, 'Patient10', '1000000010');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (11, 'Patient11', '1000000011');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (12, 'Patient12', '1000000012');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (13, 'Patient13', '1000000013');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (14, 'Patient14', '1000000014');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (15, 'Patient15', '1000000015');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (16, 'Patient16', '1000000016');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (17, 'Patient17', '1000000017');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (18, 'Patient18', '1000000018');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (19, 'Patient19', '1000000019');
INSERT INTO Patient (Patient_ID, Name, EGN)
VALUES (20, 'Patient20', '1000000020');
```

```
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (1, 'Specialty1');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (2, 'Specialty2');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (3, 'Specialty3');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (4, 'Specialty4');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (5, 'Specialty5');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (6, 'Specialty6');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (7, 'Specialty7');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (8, 'Specialty8');
```

```

INSERT INTO Specialties (Specialty_ID, Title)
VALUES (9, 'Specialty9');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (10, 'Specialty10');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (11, 'Specialty11');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (12, 'Specialty12');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (13, 'Specialty13');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (14, 'Specialty14');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (15, 'Specialty15');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (16, 'Specialty16');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (17, 'Specialty17');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (18, 'Specialty18');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (19, 'Specialty19');
INSERT INTO Specialties (Specialty_ID, Title)
VALUES (20, 'Specialty20');

```

```

INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (1, 1, 'Doctor1', '0880000001');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (2, 2, 'Doctor2', '0880000002');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (3, 3, 'Doctor3', '0880000003');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (4, 4, 'Doctor4', '0880000004');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (5, 5, 'Doctor5', '0880000005');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (6, 6, 'Doctor6', '0880000006');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (7, 7, 'Doctor7', '0880000007');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (8, 8, 'Doctor8', '0880000008');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (9, 9, 'Doctor9', '0880000009');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (10, 10, 'Doctor10', '0880000010');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (11, 11, 'Doctor11', '0880000011');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)

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```
VALUES (12, 12, 'Doctor12', '0880000012');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (13, 13, 'Doctor13', '0880000013');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (14, 14, 'Doctor14', '0880000014');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (15, 15, 'Doctor15', '0880000015');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (16, 16, 'Doctor16', '0880000016');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (17, 17, 'Doctor17', '0880000017');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (18, 18, 'Doctor18', '0880000018');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (19, 19, 'Doctor19', '0880000019');
INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
VALUES (20, 20, 'Doctor20', '0880000020');
```

```
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (1, 'Diagnosis1');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (2, 'Diagnosis2');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (3, 'Diagnosis3');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (4, 'Diagnosis4');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (5, 'Diagnosis5');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (6, 'Diagnosis6');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (7, 'Diagnosis7');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (8, 'Diagnosis8');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (9, 'Diagnosis9');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (10, 'Diagnosis10');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (11, 'Diagnosis11');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (12, 'Diagnosis12');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (13, 'Diagnosis13');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (14, 'Diagnosis14');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (15, 'Diagnosis15');
```

```
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (16, 'Diagnosis16');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (17, 'Diagnosis17');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (18, 'Diagnosis18');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (19, 'Diagnosis19');
INSERT INTO Treatment_Diagnosis (Diagnosis_ID, Description)
VALUES (20, 'Diagnosis20');
```

```
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (1, 1, 1, TO_DATE('2023-01-01', 'YYYY-MM-DD'), 30, 1);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (2, 2, 2, TO_DATE('2023-02-01', 'YYYY-MM-DD'), 15, 2);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (3, 3, 3, TO_DATE('2023-03-01', 'YYYY-MM-DD'), 20, 3);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (4, 4, 4, TO_DATE('2023-04-01', 'YYYY-MM-DD'), 10, 4);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (5, 5, 5, TO_DATE('2023-05-01', 'YYYY-MM-DD'), 25, 5);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (6, 6, 6, TO_DATE('2023-06-01', 'YYYY-MM-DD'), 18, 6);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (7, 7, 7, TO_DATE('2023-07-01', 'YYYY-MM-DD'), 15, 7);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (8, 8, 8, TO_DATE('2023-08-01', 'YYYY-MM-DD'), 20, 8);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (9, 9, 9, TO_DATE('2023-09-01', 'YYYY-MM-DD'), 10, 9);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (10, 10, 10, TO_DATE('2023-10-01', 'YYYY-MM-DD'), 25, 10);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (11, 11, 11, TO_DATE('2023-11-01', 'YYYY-MM-DD'), 30, 11);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (12, 12, 12, TO_DATE('2023-12-01', 'YYYY-MM-DD'), 15, 12);
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INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (13, 13, 13, TO_DATE('2023-11-01', 'YYYY-MM-DD'), 20, 13);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (14, 14, 14, TO_DATE('2023-10-01', 'YYYY-MM-DD'), 10, 14);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (15, 15, 15, TO_DATE('2023-09-01', 'YYYY-MM-DD'), 25, 15);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (16, 16, 16, TO_DATE('2023-08-01', 'YYYY-MM-DD'), 18, 16);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (17, 17, 17, TO_DATE('2023-07-01', 'YYYY-MM-DD'), 15, 17);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (18, 18, 18, TO_DATE('2023-06-01', 'YYYY-MM-DD'), 20, 18);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (19, 19, 19, TO_DATE('2023-05-01', 'YYYY-MM-DD'), 10, 19);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (20, 20, 20, TO_DATE('2023-04-01', 'YYYY-MM-DD'), 25, 20);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (21, 1, 2, TO_DATE('2023-02-01', 'YYYY-MM-DD'), 30, 2);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (22, 1, 3, TO_DATE('2023-03-01', 'YYYY-MM-DD'), 25, 3);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (23, 1, 4, TO_DATE('2023-04-01', 'YYYY-MM-DD'), 15, 4);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (24, 1, 5, TO_DATE('2023-05-01', 'YYYY-MM-DD'), 30, 5);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (25, 1, 6, TO_DATE('2023-06-01', 'YYYY-MM-DD'), 20, 6);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (26, 1, 7, TO_DATE('2023-07-01', 'YYYY-MM-DD'), 18, 7);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (27, 1, 8, TO_DATE('2023-08-01', 'YYYY-MM-DD'), 25, 8);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (28, 2, 9, TO_DATE('2023-02-15', 'YYYY-MM-DD'), 14, 9);

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INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (29, 3, 10, TO_DATE('2023-03-10', 'YYYY-MM-DD'), 21, 10);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (30, 4, 11, TO_DATE('2023-04-20', 'YYYY-MM-DD'), 12, 11);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (31, 5, 12, TO_DATE('2023-05-25', 'YYYY-MM-DD'), 28, 12);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (32, 6, 13, TO_DATE('2023-06-05', 'YYYY-MM-DD'), 17, 13);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (33, 7, 1, TO_DATE('2023-07-15', 'YYYY-MM-DD'), 22, 14);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (38, 8, 1, TO_DATE('2023-08-25', 'YYYY-MM-DD'), 13, 15);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (39, 9, 1, TO_DATE('2023-09-15', 'YYYY-MM-DD'), 19, 16);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (40, 10, 1, TO_DATE('2023-10-05', 'YYYY-MM-DD'), 20, 17);
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
VALUES (41, 11, 1, TO_DATE('2023-11-10', 'YYYY-MM-DD'), 18, 18);

```

- UPDATE

```

--UPDATES-----
--Patient
UPDATE Patient
SET Name = 'Patient Updated',
    EGN = '222000001'
WHERE Patient_ID = 1;

--Doctor
UPDATE Doctor
SET Name = 'Doctor1 Updated',
    Phone = '08788888881',
    Specialty_ID = 4
WHERE Doctor_ID = 1;

--Specialties
UPDATE Specialties

```

```
SET Title = 'Specialty1 Updated'
WHERE Specialty_ID = 1;
```

```
--Treatment_Diagnosis
UPDATE Treatment_Diagnosis
SET Description = 'Diagnosis1'
WHERE Diagnosis_ID = 19;
```

```
--Treatment
UPDATE Treatment
SET Treatment_Date = TO_DATE('2023-08-01', 'YYYY-MM-DD'),
    Duration = 25,
    Diagnosis_ID = 4,
    Patient_ID = 2,
    Doctor_ID = 3
WHERE Treatment_ID = 1;
```

• SELECT

- Търсене

```
-- по пациент
SELECT Patient.Name AS pName, Doctor.Name AS Doctor,
    Treatment.Treatment_Date AS tDate, Treatment.Duration, Treatment_Diagnosis.Description
AS DDescr
FROM Treatment
JOIN Patient ON Treatment.Patient_ID = Patient.Patient_ID
JOIN Doctor ON Treatment.Doctor_ID = Doctor.Doctor_ID
JOIN Treatment_Diagnosis ON Treatment.Diagnosis_ID = Treatment_Diagnosis.Diagnosis_ID
WHERE Patient.Name = 'Patient1'
ORDER BY Treatment.Treatment_Date;
```

	↕ PNAME	↕ DOCTOR	↕ TDATE	↕ DURATION	↕ DDESCR
1	Patient1	Doctor1	01-JAN-23	30	Diagnosis1
2	Patient1	Doctor2	01-FEB-23	30	Diagnosis2
3	Patient1	Doctor3	01-MAR-23	25	Diagnosis3
4	Patient1	Doctor4	01-APR-23	15	Diagnosis4
5	Patient1	Doctor5	01-MAY-23	30	Diagnosis5
6	Patient1	Doctor6	01-JUN-23	20	Diagnosis6
7	Patient1	Doctor7	01-JUL-23	18	Diagnosis7
8	Patient1	Doctor8	01-AUG-23	25	Diagnosis8
9	Patient1	Doctor5	03-JAN-25	5	Diagnosis2

```
-- po lekar
SELECT Doctor.Name AS dName, Patient.Name AS Patient,
       Treatment.Treatment_Date AS tDate, Treatment.Duration, Treatment_Diagnosis.Description
AS DDescr
FROM Treatment
JOIN Patient ON Treatment.Patient_ID = Patient.Patient_ID
JOIN Doctor ON Treatment.Doctor_ID = Doctor.Doctor_ID
JOIN Treatment_Diagnosis ON Treatment.Diagnosis_ID = Treatment_Diagnosis.Diagnosis_ID
WHERE Doctor.Name = 'Doctor1'
ORDER BY Treatment.Treatment_Date;
```

	↕ DNAME	↕ PATIENT	↕ TDATE	↕ DURATION	↕ DDESCR
1	Doctor1	Patient1	01-JAN-23	30	Diagnosis1
2	Doctor1	Patient9	15-SEP-23	19	Diagnosis16
3	Doctor1	Patient10	05-OCT-23	20	Diagnosis17
4	Doctor1	Patient11	10-NOV-23	18	Diagnosis18

```
-- po diagnoza
SELECT Treatment_Diagnosis.Description AS Diagnosis, Patient.Name AS Patient_Name,
       Doctor.Name AS Doctor_Name,
       Treatment.Treatment_Date AS tDate, Treatment.Duration
FROM Treatment
JOIN Patient ON Treatment.Patient_ID = Patient.Patient_ID
JOIN Doctor ON Treatment.Doctor_ID = Doctor.Doctor_ID
JOIN Treatment_Diagnosis ON Treatment.Diagnosis_ID = Treatment_Diagnosis.Diagnosis_ID
WHERE Treatment_Diagnosis.Description = 'Diagnosis1'
ORDER BY Treatment.Treatment_Date;
```

	↕ DIAGNOSIS	↕ PATIENT_NAME	↕ DOCTOR_NAME	↕ TDATE	↕ DURATION
1	Diagnosis1	Patient1	Doctor1	01-JAN-23	30
2	Diagnosis1	Patient20	Doctor20	01-APR-23	25
3	Diagnosis1	Patient19	Doctor19	01-MAY-23	10

- Справки

-- Lechenie na pacient, podredeni po data

```
SELECT Treatment_Diagnosis.Description AS Diagnosis, Patient.Name AS Patient_Name,
       Doctor.Name AS Doctor_Name,
       Treatment.Duration, Treatment.Treatment_Date
FROM Treatment
JOIN Patient ON Treatment.Patient_ID = Patient.Patient_ID
JOIN Doctor ON Treatment.Doctor_ID = Doctor.Doctor_ID
JOIN Treatment_Diagnosis ON Treatment.Diagnosis_ID = Treatment_Diagnosis.Diagnosis_ID
WHERE Patient.Name = 'Patient1'
ORDER BY Treatment.Treatment_Date;
```

	DIAGNOSIS	PATIENT_NAME	DOCTOR_NAME	DURATION	TREATMENT_DATE
1	Diagnosis1	Patient1	Doctor1	30	01-JAN-23
2	Diagnosis2	Patient1	Doctor2	30	01-FEB-23
3	Diagnosis3	Patient1	Doctor3	25	01-MAR-23
4	Diagnosis4	Patient1	Doctor4	15	01-APR-23
5	Diagnosis5	Patient1	Doctor5	30	01-MAY-23
6	Diagnosis6	Patient1	Doctor6	20	01-JUN-23
7	Diagnosis7	Patient1	Doctor7	18	01-JUL-23
8	Diagnosis8	Patient1	Doctor8	25	01-AUG-23
9	Diagnosis2	Patient1	Doctor5	5	03-JAN-25

-- lechenie za lekar, podredeni po diagnoza

```
SELECT Doctor.Name AS Doctor_Name, Patient.Name AS Patient_Name,
       Treatment_Diagnosis.Description AS Diagnosis, Treatment.Treatment_Date,
       Treatment.Duration
FROM Treatment
JOIN Patient ON Treatment.Patient_ID = Patient.Patient_ID
JOIN Doctor ON Treatment.Doctor_ID = Doctor.Doctor_ID
JOIN Treatment_Diagnosis ON Treatment.Diagnosis_ID = Treatment_Diagnosis.Diagnosis_ID
WHERE Doctor.Name = 'Doctor1'
ORDER BY Treatment_Diagnosis.Description;
```

	DOCTOR_NAME	PATIENT_NAME	DIAGNOSIS	TREATMENT_DATE	DURATION
1	Doctor1	Patient1	Diagnosis1	01-JAN-23	30
2	Doctor1	Patient9	Diagnosis16	15-SEP-23	19
3	Doctor1	Patient10	Diagnosis17	05-OCT-23	20
4	Doctor1	Patient11	Diagnosis18	10-NOV-23	18

--Vsichki lecheniq za perioda

```
SELECT Patient.Name AS Patient_Name, Doctor.Name AS Doctor_Name,  
       Treatment_Diagnosis.Description AS Diagnosis, Treatment.Treatment_Date,  
       Treatment.Duration  
FROM Treatment  
JOIN Patient ON Treatment.Patient_ID = Patient.Patient_ID  
JOIN Doctor ON Treatment.Doctor_ID = Doctor.Doctor_ID  
JOIN Treatment_Diagnosis ON Treatment.Diagnosis_ID = Treatment_Diagnosis.Diagnosis_ID  
WHERE Treatment.Treatment_Date BETWEEN TO_DATE('2023-03-01', 'YYYY-MM-DD') AND  
       TO_DATE('2023-12-31', 'YYYY-MM-DD')  
ORDER BY Treatment.Treatment_Date;
```

	PATIENT_NAME	DOCTOR_NAME	DIAGNOSIS	TREATMENT_DATE	DURATION
1	Patient3	Doctor3	Diagnosis3	01-MAR-23	20
2	Patient1	Doctor3	Diagnosis3	01-MAR-23	25
3	Patient3	Doctor10	Diagnosis10	10-MAR-23	21
4	Patient4	Doctor4	Diagnosis4	01-APR-23	10
5	Patient1	Doctor4	Diagnosis4	01-APR-23	15
6	Patient20	Doctor20	Diagnosis1	01-APR-23	25
7	Patient4	Doctor11	Diagnosis11	20-APR-23	12
8	Patient1	Doctor5	Diagnosis5	01-MAY-23	30
9	Patient5	Doctor5	Diagnosis5	01-MAY-23	25
10	Patient19	Doctor19	Diagnosis1	01-MAY-23	10
11	Patient5	Doctor12	Diagnosis12	25-MAY-23	28
12	Patient6	Doctor6	Diagnosis6	01-JUN-23	18
13	Patient18	Doctor18	Diagnosis18	01-JUN-23	20
14	Patient1	Doctor6	Diagnosis6	01-JUN-23	20
15	Patient6	Doctor13	Diagnosis13	05-JUN-23	17
16	Patient17	Doctor17	Diagnosis17	01-JUL-23	15

- PL/SQL процедури/тригери/курсори

- Процедури

--PACIENT----->

--add

```
CREATE OR REPLACE PROCEDURE Add_Patient(  
    p_Patient_ID IN INT,  
    p_Name IN VARCHAR,  
    p_EGN IN CHAR  
)  
IS  
BEGIN  
    INSERT INTO Patient (Patient_ID, Name, EGN)  
    VALUES (p_Patient_ID, p_Name, p_EGN);  
END;  
/
```

--update

```
CREATE OR REPLACE PROCEDURE Update_Patient(  
    p_Patient_ID IN INT,  
    p_Name IN VARCHAR,  
    p_EGN IN CHAR  
)  
IS  
BEGIN  
    UPDATE Patient  
    SET Name = p_Name,  
        EGN = p_EGN  
    WHERE Patient_ID = p_Patient_ID;  
END;  
/
```

--delete

```
CREATE OR REPLACE PROCEDURE Delete_Patient(  
    p_Patient_ID IN INT  
)  
IS  
BEGIN  
    DELETE FROM Patient  
    WHERE Patient_ID = p_Patient_ID;  
END;  
/
```

--LEKAR----->

--add

```

CREATE OR REPLACE PROCEDURE Add_Doctor(
    p_Doctor_ID IN INT,
    p_Specialty_ID IN INT,
    p_Name IN VARCHAR,
    p_Phone IN VARCHAR
)
IS
BEGIN
    INSERT INTO Doctor (Doctor_ID, Specialty_ID, Name, Phone)
    VALUES (p_Doctor_ID, p_Specialty_ID, p_Name, p_Phone);
END;
/

```

```

--update
CREATE OR REPLACE PROCEDURE Update_Doctor(
    p_Doctor_ID IN INT,
    p_Specialty_ID IN INT,
    p_Name IN VARCHAR,
    p_Phone IN VARCHAR
)
IS
BEGIN
    UPDATE Doctor
    SET Specialty_ID = p_Specialty_ID,
        Name = p_Name,
        Phone = p_Phone
    WHERE Doctor_ID = p_Doctor_ID;
END;
/

```

```

--delete
CREATE OR REPLACE PROCEDURE Delete_Doctor(
    p_Doctor_ID IN INT
)
IS
BEGIN
    DELETE FROM Doctor
    WHERE Doctor_ID = p_Doctor_ID;
END;
/

```

```

--LECHENIE----->
--add
CREATE OR REPLACE PROCEDURE Add_Treatment(
    p_Treatment_ID IN INT,
    p_Patient_ID IN INT,
    p_Doctor_ID IN INT,
    p_Treatment_Date IN DATE,

```

```

    p_Duration IN INT,
    p_Diagnosis_ID IN INT
)
IS
BEGIN
    INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration,
Diagnosis_ID)
    VALUES (p_Treatment_ID, p_Patient_ID, p_Doctor_ID, p_Treatment_Date, p_Duration,
p_Diagnosis_ID);
END;
/

```

```

--update
CREATE OR REPLACE PROCEDURE Update_Treatment(
    p_Treatment_ID IN INT,
    p_Patient_ID IN INT,
    p_Doctor_ID IN INT,
    p_Treatment_Date IN DATE,
    p_Duration IN INT,
    p_Diagnosis_ID IN INT
)
IS
BEGIN
    UPDATE Treatment
    SET Patient_ID = p_Patient_ID,
        Doctor_ID = p_Doctor_ID,
        Treatment_Date = p_Treatment_Date,
        Duration = p_Duration,
        Diagnosis_ID = p_Diagnosis_ID
    WHERE Treatment_ID = p_Treatment_ID;
END;
/

```

```

--delete
CREATE OR REPLACE PROCEDURE Delete_Treatment(
    p_Treatment_ID IN INT
)
IS
BEGIN
    DELETE FROM Treatment
    WHERE Treatment_ID = p_Treatment_ID;
END;
/

```

- Тригери

Търсения

Справки

```
--PATIENT ID----->
CREATE OR REPLACE TRIGGER trg_patient_id
BEFORE INSERT ON Patient
FOR EACH ROW
BEGIN
    SELECT NVL(MAX(Patient_ID), 0) + 1 INTO :NEW.Patient_ID
    FROM Patient;
END;

--DOCTOR ID----->
CREATE OR REPLACE TRIGGER trg_doctor_id
BEFORE INSERT ON Doctor
FOR EACH ROW
BEGIN
    SELECT NVL(MAX(Doctor_ID), 0) + 1 INTO :NEW.Doctor_ID
    FROM Doctor;
END;

--TREATMENT ID----->
CREATE OR REPLACE TRIGGER trg_treatment_id
BEFORE INSERT ON Treatment
FOR EACH ROW
BEGIN
    SELECT NVL(MAX(Treatment_ID), 0) + 1 INTO :NEW.Treatment_ID
    FROM Treatment;
END;

    IF v_specialty_exists = 0 THEN
        RAISE_APPLICATION_ERROR(-20004, 'ERROR! Specialty not exist!');
    END IF;
END;
/

Error starting at line : 628 in command -
UPDATE Doctor
SET Specialty_ID = 999
WHERE Doctor_ID = 1
Error report -
ORA-20004: ERROR! Specialty not exist!
ORA-06512: at "SYSTEM.UPDATESPECIALTYTITLE", line 9
ORA-04088: error during execution of trigger 'SYSTEM.UPDATESPECIALTYTITLE'

--Dublirane na lechenie na pacient----->
```

```

CREATE OR REPLACE TRIGGER CheckPatientTreatmentOverlap
BEFORE INSERT OR UPDATE ON Treatment
FOR EACH ROW
DECLARE
    v_count INT;
BEGIN
    SELECT COUNT(*)
    INTO v_count
    FROM Treatment
    WHERE Patient_ID = :NEW.Patient_ID
    AND Treatment_Date <= :NEW.Treatment_Date + :NEW.Duration
    AND Treatment_Date + Duration >= :NEW.Treatment_Date;

    IF v_count > 0 THEN
        RAISE_APPLICATION_ERROR(-20001, 'Error! Patient already having appointment!');
    END IF;
END;
/

--Пациент1 има лечение от 20-ти декември 2023 г. за 30 дена
--Случай 1: от 18-ти Декември 2023 г. за 5 дена
Error starting at line : 292 in command -
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration, Diagnosis_ID)
VALUES (1, 1, 7, TO_DATE('2023-12-18', 'YYYY-MM-DD'), 5, 2)
Error report -
ORA-20001: Error! Patient already having appointment!
ORA-06512: at "SYSTEM.CHECKPATIENTTREATMENTOVERLAP", line 12
ORA-04088: error during execution of trigger 'SYSTEM.CHECKPATIENTTREATMENTOVERLAP'

--Случай 2: от 20-ти Декември 2023 г. за 30 дена
Error starting at line : 286 in command -
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration, Diagnosis_ID)
VALUES (1, 1, 7, TO_DATE('2023-12-20', 'YYYY-MM-DD'), 30, 2)
Error report -
ORA-20001: Error! Patient already having appointment!
ORA-06512: at "SYSTEM.CHECKPATIENTTREATMENTOVERLAP", line 12
ORA-04088: error during execution of trigger 'SYSTEM.CHECKPATIENTTREATMENTOVERLAP'

--Случай 3: от 30-ти Декември 2023 г. за 10 дена
Error starting at line : 289 in command -
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration, Diagnosis_ID)
VALUES (1, 1, 8, TO_DATE('2023-12-30', 'YYYY-MM-DD'), 10, 2)
Error report -
ORA-20001: Error! Patient already having appointment!
ORA-06512: at "SYSTEM.CHECKPATIENTTREATMENTOVERLAP", line 12
ORA-04088: error during execution of trigger 'SYSTEM.CHECKPATIENTTREATMENTOVERLAP'

--DUBLIRANE NA DOKTOR NA RAZLICHNI LECHENIQ PO EDNO I SUSHTO VREME-----
----->

CREATE OR REPLACE TRIGGER CheckDoctorTreatmentOverlap
BEFORE INSERT OR UPDATE ON Treatment
FOR EACH ROW
DECLARE
    v_count INT;
BEGIN

```

```

SELECT COUNT(*)
INTO v_count
FROM Treatment
WHERE Doctor_ID = :NEW.Doctor_ID
AND Treatment_Date <= :NEW.Treatment_Date + :NEW.Duration
AND Treatment_Date + Duration >= :NEW.Treatment_Date;

IF v_count > 0 THEN
    RAISE_APPLICATION_ERROR(-20002, 'ERROR! Doctor is busy!');
END IF;
END;
/
INSERT INTO Treatment (Treatment_ID, Patient_ID, Doctor_ID, Treatment_Date, Duration, Diagnosis_ID)
VALUES (1, 1, 5, TO_DATE('2025-01-03', 'YYYY-MM-DD'), 5, 2)
Error report -
ORA-20002: ERROR! Doctor is busy!
ORA-06512: at "SYSTEM.CHECKDOCTORTREATMENTOVERLAP", line 12
ORA-04088: error during execution of trigger 'SYSTEM.CHECKDOCTORTREATMENTOVERLAP'

```

- Курсору

```

--Търсенията-----
--TURSENIQ-----
--po ime na pacient
CREATE OR REPLACE PROCEDURE Get_Treatments_By_Patient_Name (
    p_Patient_Name IN VARCHAR2
) AS
    CURSOR treatment_cursor IS
        SELECT p.name AS patient_name,
               d.name AS doctor_name,
               t.treatment_date AS treatment_date,
               t.duration AS treatment_duration,
               td.description AS diagnosis_description
        FROM Treatment t
        JOIN Patient p ON t.patient_id = p.patient_id
        JOIN Doctor d ON t.doctor_id = d.doctor_id
        JOIN Treatment_Diagnosis td ON t.diagnosis_id = td.diagnosis_id
        WHERE LOWER(p.name) LIKE '%' || LOWER(p_Patient_Name) || '%'
        ORDER BY t.treatment_date;

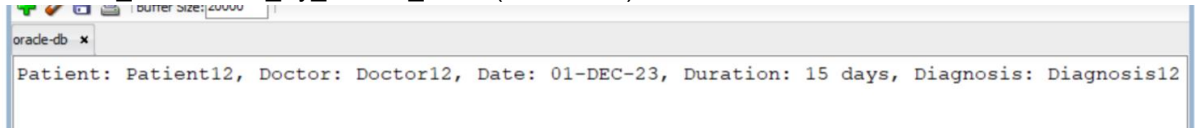
    v_patient_name Patient.Name%TYPE;
    v_doctor_name Doctor.Name%TYPE;
    v_treatment_date Treatment.Treatment_Date%TYPE;
    v_treatment_duration Treatment.Duration%TYPE;
    v_diagnosis_description Treatment_Diagnosis.Description%TYPE;
BEGIN
    OPEN treatment_cursor;
    LOOP
        FETCH treatment_cursor INTO v_patient_name, v_doctor_name, v_treatment_date,
        v_treatment_duration, v_diagnosis_description;
        EXIT WHEN treatment_cursor%NOTFOUND;
    
```

```

        DBMS_OUTPUT.PUT_LINE('Patient: ' || v_patient_name ||
                               ', Doctor: ' || v_doctor_name ||
                               ', Date: ' || v_treatment_date ||
                               ', Duration: ' || v_treatment_duration ||
                               ' days, Diagnosis: ' || v_diagnosis_description);
    END LOOP;
    CLOSE treatment_cursor;
END;

```

EXEC Get_Treatments_By_Patient_Name('Patient12');



```

Patient: Patient12, Doctor: Doctor12, Date: 01-DEC-23, Duration: 15 days, Diagnosis: Diagnosis12

```

--po lekar

```

CREATE OR REPLACE PROCEDURE Get_Treatments_By_Doctor_Name (
    p_Doctor_Name IN VARCHAR2
) AS

```

```

    CURSOR treatment_cursor IS
        SELECT d.name AS doctor_name,
               p.name AS patient_name,
               t.treatment_date AS treatment_date,
               t.duration AS treatment_duration,
               td.description AS diagnosis_description
        FROM Treatment t
        JOIN Patient p ON t.patient_id = p.patient_id
        JOIN Doctor d ON t.doctor_id = d.doctor_id
        JOIN Treatment_Diagnosis td ON t.diagnosis_id = td.diagnosis_id
        WHERE LOWER(d.name) LIKE '%' || LOWER(p_Doctor_Name) || '%'
        ORDER BY t.treatment_date;

```

```

    v_doctor_name Doctor.Name%TYPE;
    v_patient_name Patient.Name%TYPE;
    v_treatment_date Treatment.Treatment_Date%TYPE;
    v_treatment_duration Treatment.Duration%TYPE;
    v_diagnosis_description Treatment_Diagnosis.Description%TYPE;
BEGIN
    OPEN treatment_cursor;
    LOOP
        FETCH treatment_cursor INTO v_doctor_name, v_patient_name, v_treatment_date,
v_treatment_duration, v_diagnosis_description;
        EXIT WHEN treatment_cursor%NOTFOUND;
        DBMS_OUTPUT.PUT_LINE('Doctor: ' || v_doctor_name ||
                               ', Patient: ' || v_patient_name ||
                               ', Date: ' || v_treatment_date ||
                               ', Duration: ' || v_treatment_duration ||
                               ' days, Diagnosis: ' || v_diagnosis_description);
    END LOOP;

```

```
CLOSE treatment_cursor;
END;
```

```
EXEC Get_Treatments_By_Doctor_Name('Doctor15');
```

```
Doctor: Doctor15, Patient: Patient8, Date: 25-AUG-23, Duration: 13 days, Diagnosis: Diagnosis15
Doctor: Doctor15, Patient: Patient15, Date: 01-SEP-23, Duration: 25 days, Diagnosis: Diagnosis15
```

```
--po lechenie
```

```
CREATE OR REPLACE PROCEDURE Get_Treatments_By_Diagnosis (
    p_Diagnosis_Name IN VARCHAR2
) AS
```

```
    CURSOR treatment_cursor IS
        SELECT d.name AS doctor_name,
               p.name AS patient_name,
               t.treatment_date AS treatment_date,
               t.duration AS treatment_duration,
               td.description AS diagnosis_description
        FROM Treatment t
        JOIN Patient p ON t.patient_id = p.patient_id
        JOIN Doctor d ON t.doctor_id = d.doctor_id
        JOIN Treatment_Diagnosis td ON t.diagnosis_id = td.diagnosis_id
        WHERE LOWER(td.description) LIKE '%' || LOWER(p_Diagnosis_Name) || '%'
        ORDER BY t.treatment_date;
```

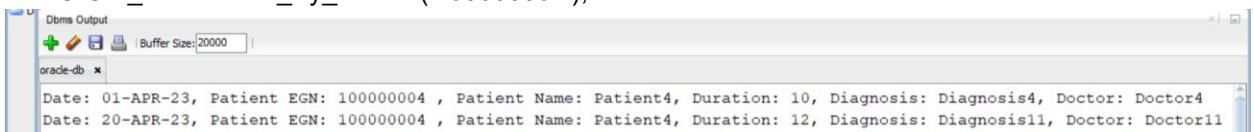
```
    v_doctor_name Doctor.Name%TYPE;
    v_patient_name Patient.Name%TYPE;
    v_treatment_date Treatment.Treatment_Date%TYPE;
    v_treatment_duration Treatment.Duration%TYPE;
    v_diagnosis_description Treatment_Diagnosis.Description%TYPE;
BEGIN
    OPEN treatment_cursor;
    LOOP
        FETCH treatment_cursor INTO v_doctor_name, v_patient_name, v_treatment_date,
        v_treatment_duration, v_diagnosis_description;
        EXIT WHEN treatment_cursor%NOTFOUND;
        DBMS_OUTPUT.PUT_LINE('Diagnosis: ' || v_diagnosis_description ||
                               ', Doctor: ' || v_doctor_name ||
                               ', Patient: ' || v_patient_name ||
                               ', Date: ' || v_treatment_date ||
                               ', Duration: ' || v_treatment_duration ||
                               ' days');
    END LOOP;
    CLOSE treatment_cursor;
END;
/
```



```
EXEC Get_Treatments_By_Diagnosis('Diagnosis11');
```

```
Diagnosis: Diagnosis11, Doctor: Doctor11, Patient: Patient4, Date: 20-APR-23, Duration: 12 days  
Diagnosis: Diagnosis11, Doctor: Doctor11, Patient: Patient11, Date: 01-NOV-23, Duration: 30 days
```

```
--Справки-----  
--lechenie po EGN----->  
CREATE OR REPLACE PROCEDURE Get_Treatments_By_Patient (  
    p_EGN IN CHAR  
) AS  
    CURSOR treatment_cursor IS  
        SELECT t.treatment_date, t.duration, p.egn, p.name, td.description, d.name  
        FROM Treatment t  
        JOIN Patient p ON t.patient_id = p.patient_id  
        JOIN Treatment_Diagnosis td ON t.diagnosis_id = td.diagnosis_id  
        JOIN Doctor d ON t.doctor_id = d.doctor_id  
        WHERE p.egn = p_EGN  
        ORDER BY t.treatment_date;  
  
    v_treatment_date Treatment.Treatment_Date%TYPE;  
    v_duration Treatment.Duration%TYPE;  
    v_patient_egn Patient.EGN%TYPE;  
    v_patient_name Patient.Name%TYPE;  
    v_description Treatment_Diagnosis.Description%TYPE;  
    v_doctor_name Doctor.Name%TYPE;  
BEGIN  
    OPEN treatment_cursor;  
    LOOP  
        FETCH treatment_cursor INTO v_treatment_date, v_duration, v_patient_egn,  
v_patient_name, v_description, v_doctor_name;  
        EXIT WHEN treatment_cursor%NOTFOUND;  
        DBMS_OUTPUT.PUT_LINE('Date: ' || v_treatment_date ||  
            ', Patient EGN: ' || v_patient_egn ||  
            ', Patient Name: ' || v_patient_name ||  
            ', Duration: ' || v_duration ||  
            ', Diagnosis: ' || v_description ||  
            ', Doctor: ' || v_doctor_name);  
    END LOOP;  
    CLOSE treatment_cursor;  
END;  
EXEC Get_Treatments_By_Patient('100000004');
```



```

--Diagnosis po Doctor ----->
CREATE OR REPLACE PROCEDURE Get_Diagnoses_By_Doctor (
  p_Doctor_Name IN VARCHAR2
) AS
  CURSOR diagnose_cursor IS
    SELECT d.name AS doctor_name,
           p.name AS patient_name,
           t.duration AS treatment_duration,
           td.description AS diagnosis_description,
           t.treatment_date AS treatment_date
    FROM Treatment t
    JOIN Treatment_Diagnosis td ON t.diagnosis_id = td.diagnosis_id
    JOIN Doctor d ON t.doctor_id = d.doctor_id
    JOIN Patient p ON t.patient_id = p.patient_id
    WHERE LOWER(d.name) LIKE '%' || LOWER(p_Doctor_Name) || '%'
    ORDER BY t.treatment_date;

  v_doctor_name Doctor.Name%TYPE;
  v_patient_name Patient.Name%TYPE;
  v_treatment_duration Treatment.Duration%TYPE;
  v_description Treatment_Diagnosis.Description%TYPE;
  v_treatment_date Treatment.Treatment_Date%TYPE;
BEGIN
  OPEN diagnose_cursor;

  LOOP
    FETCH diagnose_cursor INTO v_doctor_name, v_patient_name, v_treatment_duration,
    v_description, v_treatment_date;
    EXIT WHEN diagnose_cursor%NOTFOUND;

    DBMS_OUTPUT.PUT_LINE('Doctor: ' || v_doctor_name ||
                          ', Patient: ' || v_patient_name ||
                          ', Duration: ' || v_treatment_duration ||
                          ' days, Diagnosis: ' || v_description ||
                          ', Date: ' || v_treatment_date);

  END LOOP;

  CLOSE diagnose_cursor;
EXCEPTION
  WHEN OTHERS THEN
    DBMS_OUTPUT.PUT_LINE('Error: ' || SQLERRM);
END;

```

```
EXEC Get_Diagnoses_By_Doctor('Doctor20');
```

```

Date: 01-APR-23, Patient EGN: 100000004, Patient Name: Patient4, Duration: 10, Diagnosis: Diagnosis1, Doctor: Doctor4
Date: 20-APR-23, Patient EGN: 100000004, Patient Name: Patient4, Duration: 12, Diagnosis: Diagnosis1, Doctor: Doctor11
Doctor: Doctor20, Patient: Patient20, Duration: 25 days, Diagnosis: Diagnosis1, Date: 01-APR-23
Date: 01-JAN-23, Duration: 30, Diagnosis: Diagnosis1, Doctor: Doctor1, Patient EGN: 100000003, Patient Name: Patient1
Date: 01-APR-23, Duration: 15, Diagnosis: Diagnosis1, Doctor: Doctor3, Patient EGN: 100000003, Patient Name: Patient3

```

```

--Start_Date i End_Date na Traitement ----->
CREATE OR REPLACE PROCEDURE Get_Treatments_By_Date (
  p_Start_Date IN DATE,
  p_End_Date IN DATE
) AS
  CURSOR treatment_cursor IS
    SELECT t.treatment_id, t.treatment_date, t.duration, td.description, d.name, p.egn, p.name
    FROM Treatment t
    JOIN Treatment_Diagnosis td ON t.diagnosis_id = td.diagnosis_id
    JOIN Doctor d ON t.doctor_id = d.doctor_id
    JOIN Patient p ON t.patient_id = p.patient_id
    WHERE t.treatment_date BETWEEN p_Start_Date AND p_End_Date
    ORDER BY t.treatment_date;

  v_treatment_id Treatment.Treatment_ID%TYPE;
  v_treatment_date Treatment.Treatment_Date%TYPE;
  v_duration Treatment.Duration%TYPE;
  v_description Treatment_Diagnosis.Description%TYPE;
  v_doctor_name Doctor.Name%TYPE;
  v_patient_egn Patient.EGN%TYPE;
  v_patient_name Patient.Name%TYPE;
BEGIN
  OPEN treatment_cursor;
  LOOP
    FETCH treatment_cursor INTO v_treatment_id, v_treatment_date, v_duration,
v_description, v_doctor_name, v_patient_egn, v_patient_name;
    EXIT WHEN treatment_cursor%NOTFOUND;
    DBMS_OUTPUT.PUT_LINE('Date: ' || v_treatment_date ||
      ', Duration: ' || v_duration ||
      ', Diagnosis: ' || v_description ||
      ', Doctor: ' || v_doctor_name ||
      ', Patient EGN: ' || v_patient_egn ||
      ', Patient Name: ' || v_patient_name);
  END LOOP;
  CLOSE treatment_cursor;
END;

EXEC Get_Treatments_By_Date(TO_DATE('2023-01-01', 'YYYY-MM-DD'), TO_DATE('2023-10-01', 'YYYY-MM-DD'));

```

Date: 01-FEB-23, Duration: 15, Diagnosis: Diagnosis2, Doctor: Doctor2, Patient EGN: 100000002 , Patient Name: Patient2
Date: 01-FEB-23, Duration: 30, Diagnosis: Diagnosis2, Doctor: Doctor2, Patient EGN: 100000001 , Patient Name: Patient1
Date: 01-MAR-23, Duration: 25, Diagnosis: Diagnosis3, Doctor: Doctor3, Patient EGN: 100000001 , Patient Name: Patient1
Date: 01-MAR-23, Duration: 20, Diagnosis: Diagnosis3, Doctor: Doctor3, Patient EGN: 100000003 , Patient Name: Patient3
Date: 10-MAR-23, Duration: 21, Diagnosis: Diagnosis10, Doctor: Doctor10, Patient EGN: 100000003 , Patient Name: Patient3
Date: 01-APR-23, Duration: 10, Diagnosis: Diagnosis4, Doctor: Doctor4, Patient EGN: 100000004 , Patient Name: Patient4
Date: 01-APR-23, Duration: 15, Diagnosis: Diagnosis4, Doctor: Doctor4, Patient EGN: 100000001 , Patient Name: Patient1
Date: 01-APR-23, Duration: 25, Diagnosis: Diagnosis1, Doctor: Doctor20, Patient EGN: 1000000020, Patient Name: Patient20
Date: 20-APR-23, Duration: 12, Diagnosis: Diagnosis11, Doctor: Doctor11, Patient EGN: 100000004 , Patient Name: Patient4
Date: 01-MAY-23, Duration: 30, Diagnosis: Diagnosis5, Doctor: Doctor5, Patient EGN: 100000001 , Patient Name: Patient1
Date: 01-MAY-23, Duration: 10, Diagnosis: Diagnosis1, Doctor: Doctor19, Patient EGN: 100000019 , Patient Name: Patient19
Date: 01-MAY-23, Duration: 25, Diagnosis: Diagnosis5, Doctor: Doctor5, Patient EGN: 100000005 , Patient Name: Patient5
Date: 25-MAY-23, Duration: 28, Diagnosis: Diagnosis12, Doctor: Doctor12, Patient EGN: 100000005 , Patient Name: Patient5
Date: 01-JUN-23, Duration: 20, Diagnosis: Diagnosis18, Doctor: Doctor18, Patient EGN: 100000018 , Patient Name: Patient18
Date: 01-JUN-23, Duration: 18, Diagnosis: Diagnosis6, Doctor: Doctor6, Patient EGN: 100000006 , Patient Name: Patient6
Date: 01-JUN-23, Duration: 20, Diagnosis: Diagnosis6, Doctor: Doctor6, Patient EGN: 100000001 , Patient Name: Patient1
Date: 05-JUN-23, Duration: 17, Diagnosis: Diagnosis13, Doctor: Doctor13, Patient EGN: 100000006 , Patient Name: Patient6
