

Task 1:

Insert:

Table: match

```
Choose option:
PRESS: 1 to add... 2 to update... 3 to delete... 4 to specific_select... 5 to show_table...
1
Choose table:
  press 1 - Match...  press 2 - Stadium...  press 3 - StartDate... press 4 - Team
1
Do you want to insert rows manually or randomly?
Press M if manually, R if randomly: M
What number of row do you want to add? - 1
Enter values following this sequence: Match_id, opp_score, own_score
Match_id: 1232
opp_score: 12
own_score: 5

1 Record successfully inserted
Do you want to continue? Press Y if yes, N if no: |
```

```
PRESS: 1 to add... 2 to update... 3 to delete... 4 to specific_select... 5 to show_table...
5
Choose table:
  press 1 - Match...  press 2 - Stadium...  press 3 - StartDate... press 4 - Team
1
Show each row and it's columns values
Match_id  opp_score  own_score
1          2          1
2          4          5
3          2          2
```

1123	2	3
1232	12	5
2342	2	3

```
Enter values following this sequence: Match_id, opp_score, own_score
Match_id: 1
opp_score: 3
own_score: 2

Failed inserting record into table ПОМИЛКА: повторювані значення ключа порушують обмеження унікальності "Match_pkey"
DETAIL: Ключ (match_id)=(1) вже існує.

Do you want to continue? Press Y if yes, N if no:
```

```
Match_id: f
You entered wrong instance, please try again!
Do you want to exit? Press M to go to the main menu, or E to exit: |
```

```
Enter values following this sequence: Match_id, opp_score, own_score
Match_id: 5353
opp_score: 2
own_score: .
You entered wrong instance, please try again!
Do you want to exit? Press M to go to the main menu, or E to exit: |
```

Table: stadium

```
Choose table:
press 1 - Match...   press 2 - Stadium...   press 3 - StartDate... press 4 - Team
2
Do you want to insert rows manually or randomly?
Press M if manually, R if randomly: M
What number of row do you want to add? - 1
Enter values following this sequence: Stadium_id, Name, City
Stadium_id: 3234
Name: Great stadium
City: Kyiv

1 Record successfully inserted
Do you want to continue? Press Y if yes, N if no:
```

54	fe	wr
445		lile
3234	Great stadium	Kyiv

```
Enter values following this sequence: Stadium_id, Name, City
Stadium_id: 2
Name: FR
City: GRY

Failed inserting record into table ПОМИЛКА: повторювані значення ключа порушують обмеження унікальності "Stadium_pkey"
DETAIL: Ключ (stadium_id)=(2) вже існує.
```

```
Enter values following this sequence: Stadium_id, Name, City
Stadium_id: 445
Name:
City: lile

1 Record successfully inserted
```

Table: startdate

```
Choose table:
press 1 - Match...   press 2 - Stadium...   press 3 - StartDate... press 4 - Team
3
Do you want to insert rows manually or randomly?
Press M if manually, R if randomly: M
What number of row do you want to add? - 1
Enter values following this sequence: Team_id, Match_id, Start_date(yyyy-mm-dd)
Team_id: 2
Match_id: 3
Start_date: 2018-09-12

1 Record successfully inserted
Do you want to continue? Press Y if yes, N if no:
```

2	2	2020-09-23
2	3	2018-09-12
3	4	2018-02-02

```

Enter values following this sequence: Team_id, Match_id, Start_date(yyyy-mm-dd)
Team_id: 2
Match_id: 1234
Failed, there are no records with such id: list index out of range
Do you want to exit? Press M to go to the main menu, or E to exit: |

```

```

Enter values following this sequence: Team_id, Match_id, Start_date(yyyy-mm-dd)
Team_id: 3
Match_id: 4
Start_date: 2018-02-02

1 Record successfully inserted
Do you want to continue? Press Y if yes, N if no: Y
What number of row do you want to add? - 1
Enter values following this sequence: Team_id, Match_id, Start_date(yyyy-mm-dd)
Team_id: 3
Match_id: 4
Start_date: 2018-03-03

Failed inserting record into table ПОМИЛКА: повторювані значення ключа порушують обмеження унікальності "PK_StartDate"
DETAIL: Ключ (team_id, match_id)=(3, 4) вже існує.

```

```

Enter values following this sequence: Team_id, Match_id, Start_date(yyyy-mm-dd)
Team_id: 1
Match_id: 4
Start_date: 2-2-=2
You entered wrong date value, please try again!

```

```

Enter values following this sequence: Team_id, Match_id, Start_date(yyyy-mm-dd)
Team_id: 1
Match_id: 3
Start_date:
You entered wrong date value, please try again!

```

Table: team

```

Choose table:
  press 1 - Match...   press 2 - Stadium...   press 3 - StartDate... press 4 - Team
4
Do ypo want to insert rows manually or randomly?
Press M if manually, R if randomly: M
What number of row do you want to add? - 1
Enter values following this sequence: Team_id, Name, Opponent, Coach, Stadium_id
Team_id: 1242
Name: Beste
Opponent: Worse
Coach: Coach
Stadium_id: 2

1 Record successfully inserted

```

956	NCPCRW	LEIMYU	ABILVD	5
1242	Beste	Worse	Coach	2
2326	ret	gef		3

```
Enter values following this sequence: Team_id, Name, Opponent, Coach, Stadium_id
Team_id: 1234
Name: fff
Opponent: ddd
Coach: dfdfd
Stadium_id: 456774
Failed, there are no records with such id: list index out of range
```

```
Enter values following this sequence: Team_id, Name, Opponent, Coach, Stadium_id
Team_id: 2326
Name: ret
Opponent: gef
Coach:
Stadium_id: 3

1 Record successfully inserted
```

```
Enter values following this sequence: Team_id, Name, Opponent, Coach, Stadium_id
Team_id: 2535
Name:
Error that column cannot contain NULL values!
```

Update:

Table: match

```
Choose option:
PRESS: 1 to add... 2 to update... 3 to delete... 4 to specific_select... 5 to show_table...
2
Choose table:
press 1 - Match... press 2 - Stadium... press 3 - StartDate... press 4 - Team
1
What number of rows do you want to update? - 1
Enter values following this sequence opp_score, own_score, Match_id:
opp_score: 4
own_score: 4
Match_id: 5

1 Records Updated
```

4	1	0
5	2	2
8	5	7

4	1	0
5	4	4
8	5	7

```
Enter values following this sequence opp_score, own_score, Match_id:
opp_score:
Error that column cannot contain NULL values!
```

```
Enter values following this sequence opp_score, own_score, Match_id:
opp_score: 1
own_score: 1
Match_id: 452635
Failed, there are no records with such id: list index out of range
```

```
Enter values following this sequence opp_score, own_score, Match_id:
opp_score: 3
own_score: 9
You entered wrong instance, please try again!
```

Table: stadium

```
press 1 - Match... press 2 - Stadium... press 3 - StartDate... press 4 - Team
2
What number of rows do you want to update? - 1
Enter values following this sequence Name, City, Stadium_id:
Name: Lviv
City: Paris
Stadium_id: 6

1 Records Updated
```

5	Kotram	Kamyanka
6	FRRR	dfFF
7	XTRKJ	QOMFVD

5	Kotram	Kamyanka
6	Lviv	Paris
7	XTRKJ	QOMFVD

```
Enter values following this sequence Name, City, Stadium_id:
Name: Roty
City: ddf
Stadium_id: 225735
Failed, there are no records with such id: list index out of range
```

```
Enter values following this sequence Name, City, Stadium_id:
Name: Frop
City:
Error that column cannot contain NULL values!
```

Table: startdate

```
press 1 - Match... press 2 - Stadium... press 3 - StartDate... press 4 - Team
3
What number of rows do you want to update? - 1
Enter values following this sequence Start_date(yyyy-mm-dd), Team_id, Match_id:
Start_date: 2000-02-01
Team_id: 3
Match_id: 4

1 Records Updated
```

2	3	2018-09-12
3	4	2018-02-02
5	5	2020-09-25

2	3	2018-09-12
3	4	2000-02-01
5	5	2020-09-25

```
Enter values following this sequence Start_date(yyyy-mm-dd), Team_id, Match_id:
Start_date: 45
You entered wrong date value, please try again!
```

```
Enter values following this sequence Start_date(yyyy-mm-dd), Team_id, Match_id:
Start_date: 2017-03-03
Team_id: 1
Match_id: 56
Failed, there are no records with such id: list index out of range
```

```
Enter values following this sequence Start_date(yyyy-mm-dd), Team_id, Match_id:
Start_date: 2020-02-02
Team_id: 3
Match_id: 3

0 Records Updated
```

```
Enter values following this sequence Start_date(yyyy-mm-dd), Team_id, Match_id:
Start_date: 2010-02-02
Team_id: f
You entered wrong instance, please try again!
```

Table: team

```
press 1 - Match... press 2 - Stadium... press 3 - StartDate... press 4 - Team
4
What number of rows do you want to update? - 1
Enter values following this sequence Name, Opponent, Coach, Stadium_id, Team_id:
Name: Lokre
Opponent: Orek
Coach: Trainee
Stadium_id: 4
Team_id: 6

1 Records Updated
```

5	Lutsechk	Prypiat	Tymochek D.F.	5
6	Bglgl	gfgfgfgf	gfgfgf	1
7	Brosław	Corole	Lortus	4

5	Lutsechk	Prypiat	Tymochek D.F.	5
6	Lokre	Orek	Trainee	4
7	Brosław	Corole	Lortus	4


```
Enter values following this sequence Name, Opponent, Coach, Stadium_id, Team_id:
Name: fff
Opponent: ddd
Coach: hhh
Stadium_id: 13424
Failed, there are no records with such id: list index out of range
```

```
Enter values following this sequence Name, Opponent, Coach, Stadium_id, Team_id:
Name:
Error that column cannot contain NULL values!
```

```
Enter values following this sequence Name, Opponent, Coach, Stadium_id, Team_id:
Name: Frng
Opponent: Dfd
Coach:
Stadium_id: 3
Team_id: 3

1 Records Updated
```

```
Enter values following this sequence Name, Opponent, Coach, Stadium_id, Team_id:
Name: rr
Opponent: rr
Coach: rr
Stadium_id: 4
Team_id: f
You entered wrong instance, please try again!
```

Delete:

Table: match

```
press 1 - Match...   press 2 - Stadium...   press 3 - StartDate...   press 4 - Team
1
What number of row do you want to delete? - 1
Enter value that marks Match_id: 460
Match_id: 460

1 Record deleted
```

418	976	296
460	221	619
486	88	228

418	976	296
486	88	228

```

press 1 - Match...   press 2 - Stadium...   press 3 - StartDate... press 4 - Team
1
What number of row do you want to delete? - 1
Enter value that marks Match_id:4
Match_id: 4

Failed deleting record into table ПОМИЛКА: update або delete в таблиці "match" порушує

```

обмеження зовнішнього ключа "StartDate_Match_id_fkey" таблиці "startdate"

DETAIL: На ключ (match_id)=(4) все ще є посилання в таблиці "startdate".

```

Enter value that marks Match_id:134565
Match_id: 134565
Failed, there are no records with such id: list index out of range

```

Table: stadium

```

press 1 - Match...   press 2 - Stadium...   press 3 - StartDate... press 4 - Team
2
What number of row do you want to delete? - 1
Enter value that marks Stadium_id:34
Stadium_id: 34

1 Record deleted

```

12	222f	dfd
34	fff	fff
54	fe	wr

12	222f	dfd
54	fe	wr

```

Enter value that marks Stadium_id:3
Stadium_id: 3

```

Failed deleting record into table ПОМИЛКА: update або delete в таблиці "stadium" порушує

порушує обмеження зовнішнього ключа "Team_Stadium_id_fkey" таблиці "team"

DETAIL: На ключ (stadium_id)=(3) все ще є посилання в таблиці "team".

```

Enter value that marks Stadium_id:4674337
Stadium_id: 4674337
Failed, there are no records with such id: list index out of range

```

Table: startdate

```

Enter values following this sequence team_id, match_id:
team_id: 5
match_id: 5

```

```

1 Record deleted
3      4      2000-02-01
5      5      2020-09-25
7      3      2019-12-12

```


3	4	2000-02-01
7	3	2019-12-12

```
Enter values following this sequence team_id, match_id:
team_id: 5
match_id: 1353
Failed, there are no records with such id: list index out of range
```

```
Enter values following this sequence team_id, match_id:
team_id: 5
match_id: 4

0 Record deleted
```

Table: team

```
press 1 - Match... press 2 - Stadium... press 3 - StartDate... press 4 - Team
4
What number of row do you want to delete? - 1
Enter value that mark Team_id:432
Team_id: 432

1 Record deleted
```

428	SLWIQS	YQCXPA	FTLUVO	5
432	gg	gg	gg	1
434	ff	ff	ff	1

428	SLWIQS	YQCXPA	FTLUVO	5
434	ff	ff	ff	1

```
Enter value that mark Team_id:3
Team_id: 3

Failed deleting record into table ПОМИЛКА: update або delete в таблиці "team" порушує
```

обмеження зовнішнього ключа "StartDate_Team_id_fkey" таблиці "startdate"

DETAIL: На ключ (team_id)=(3) все ще є посилання в таблиці "startdate".

```
Enter value that mark Team_id:336787764
Team_id: 336787764
Failed, there are no records with such id: list index out of range
```

```
Enter value that mark Team_id:
Team_id:
Error that column cannot contain NULL values!
```

Task 2:

```
Choose option:
PRESS: 1 to add... 2 to update... 3 to delete... 4 to specific_select... 5 to show_table...
1
Choose table:
  press 1 - Match...   press 2 - Stadium...   press 3 - StartDate... press 4 - Team
4
Do you want to insert rows manually or randomly?
Press M if manually, R if randomly: R
What number of row do you want to add(type 'd' to set default)? - 100000
100000 Record successfully inserted
```

2072055	639	2000-03-08
2072056	1	2001-01-23
2072059	19	2001-01-03
2072059	544	2001-06-26
2072062	614	2001-06-01
2072063	990	2001-06-14
2072067	16	2000-08-15
2072067	954	2000-01-24
2072067	990	2000-07-18
2072068	87	2000-10-08
2072068	331	2000-04-03
2072070	17	2000-12-20
2072070	35	2000-10-12
2072070	896	2001-04-08
2072072	544	2001-06-12
2072072	568	2000-04-12
2072074	956	2001-03-16
2072076	5	2000-09-24
2072076	990	2000-06-28
2072078	87	2001-07-09
2072082	21	2000-04-08
2072082	3433	2001-06-11
2072086	33	2000-12-06
2072088	1	2001-06-20
2072088	486	2000-04-11
2072088	805	2000-12-08

```
1  Select count(*) from startdate
```

Data Output Explain Messages Notificati

	count bigint	
1	100008	

```

1 INSERT INTO startdate (team_id, match_id, start_date)
2     SELECT team_id, match_id, dat FROM
3     (SELECT
4     team_id, match_id,
5     date '2000-01-10' + trunc(random()*10 * (date '2020-05-20' - date '2010-01-10'))::int as dat
6     FROM team, match tableSAMPLE BERNOULLI(100)
7     ORDER BY random()) k ,generate_series(1, 10000) LIMIT 5
8     Returning team_id, match_id, start_date

```

Data Output Explain Messages Notifications

	team_id [PK] integer	match_id [PK] integer	start_date date
1	2032770	805	2000-01-10
2	2081946	544	2000-01-10
3	2019369	87	2000-01-10
4	2087644	30	2000-01-10
5	2094100	212	2000-01-10

Choose option:

PRESS: 1 to add... 2 to update... 3 to delete... 4 to specific_select... 5 to show_table...

1

Choose table:

press 1 - Match... press 2 - Stadium... press 3 - StartDate... press 4 - Team

3

Do you want to insert rows manually or randomly?

Press M if manually, R if randomly: R

What number of row do you want to add(type 'd' to set default)? - 100000

100000 Record successfully inserted

```

2100434 3c916c9d3d757505d23b4db22a4817d1 6497ff75a0c3ff3d5fa92de05f46deb4 7e5b2d8d00c7928887ca9107851688e9 6
2100435 f22e515c478ecda32db7420e899c29f3 1cd5c3a92626f5ef13f97904f84017dc 49cfdcf6a40ba7556115e8d5df9811f 7
2100436 f1d93ed604917d2f1b6b9164e2478f21 35ab70d0afa1bd86cca908d6fff8df99 29776b94b076a56dfb4a1324ec169e27 12
2100437 31fadfc59fe2b1a9550b4dd88a1b8553 62adf6e97b3ffa57b78d3a8e26ed34da 3c2af9ce834809a79e0d4f388c2c57e0 54
2100438 c8fb751cbf2e144aa21e10495c193a77 258465016040e27147f6fffec0358fa4 fdaaa303207741b0a4ac2293a531fa5e 5
2100439 0ad187dfba76e5269d13390b1fbac9c0 652d404815dc97d098d1253a107c2a88 420b8d08e8488bfb25c27b5e98d37ab 445
2100440 f0ae990fd44d65601d3bb555c0d553fc 82c66077ed55c5e2acbbf50d9b9dec0 67d9222506f84c7eed420975bd3686f8 2
2100441 a645cba1592f1ba80a6011f678b5334e ea1b93d7ca2e170546c2f618c9ba10f4 ea32fffd0d9f312c6f1156477a012008 8
2100442 5a6d81773ec721807a44b107a33256c1 082a7339cea645898b799b92e57774d3 6e762f03bc9a0a331ae6c5b714c3d55c 1
2100443 b1055311f4ec77c953061e0525a0a0bb dafedda8ffe0795cb9cdb459fc388304 ace03b27506423df4e3ea8a730a604a6 9
2100444 b19e2a6493f057ca251b748439242c7c 939c987992c43c228a6f3191eadc120e 3bd0ae83be59d2d0eec4e30864e11739 3
2100445 26ca64ae01aa9b9b65e22ddc1f9c25f8 9a9b29a22280bb1407fe0ee8ae3b39c8 e9cd1bd0c6483cc8a355da328e868d21 3234
2100446 a98113f5749cdf9ba1f1d55766ba1cc8 f1ed6cc589a6b8daa1fff9dd0fded8dd ea39488dc8a30b2544cc0bb1a640577e 4
2100447 3c916c9d3d757505d23b4db22a4817d1 6497ff75a0c3ff3d5fa92de05f46deb4 7e5b2d8d00c7928887ca9107851688e9 6
2100448 f22e515c478ecda32db7420e899c29f3 1cd5c3a92626f5ef13f97904f84017dc 49cfdcf6a40ba7556115e8d5df9811f 7
2100449 f1d93ed604917d2f1b6b9164e2478f21 35ab70d0afa1bd86cca908d6fff8df99 29776b94b076a56dfb4a1324ec169e27 12
2100450 31fadfc59fe2b1a9550b4dd88a1b8553 62adf6e97b3ffa57b78d3a8e26ed34da 3c2af9ce834809a79e0d4f388c2c57e0 54
2100451 c8fb751cbf2e144aa21e10495c193a77 258465016040e27147f6fffec0358fa4 fdaaa303207741b0a4ac2293a531fa5e 5
2100452 0ad187dfba76e5269d13390b1fbac9c0 652d404815dc97d098d1253a107c2a88 420b8d08e8488bfb25c27b5e98d37ab 445
2100453 f0ae990fd44d65601d3bb555c0d553fc 82c66077ed55c5e2acbbf50d9b9dec0 67d9222506f84c7eed420975bd3686f8 2
2100454 a645cba1592f1ba80a6011f678b5334e ea1b93d7ca2e170546c2f618c9ba10f4 ea32fffd0d9f312c6f1156477a012008 8
2100455 5a6d81773ec721807a44b107a33256c1 082a7339cea645898b799b92e57774d3 6e762f03bc9a0a331ae6c5b714c3d55c 1
2100456 b1055311f4ec77c953061e0525a0a0bb dafedda8ffe0795cb9cdb459fc388304 ace03b27506423df4e3ea8a730a604a6 9
2100457 b19e2a6493f057ca251b748439242c7c 939c987992c43c228a6f3191eadc120e 3bd0ae83be59d2d0eec4e30864e11739 3
2100458 26ca64ae01aa9b9b65e22ddc1f9c25f8 9a9b29a22280bb1407fe0ee8ae3b39c8 e9cd1bd0c6483cc8a355da328e868d21 3234

```

```
1 Select count(*) from team
```

Data Output Explain Messages Notifications

	count bigint
1	100053

```
1 INSERT INTO team (name, opponent, coach, stadium_id)
2     SELECT nam, opp, coach, stadium_id FROM
3     (SELECT md5((random()*1)::text) as nam,
4          md5((random()*2)::text) as opp,
5          md5((random()*3)::text) as coach,
6          stadium_id
7     FROM stadium tablesample BERNOULLI(100)
8     ORDER BY random()) k, generate_series(1, 10000) LIMIT 5
9 Returning team_id ,name, opponent, coach, stadium_id
```

Data Output Explain Messages Notifications

	team_id [PK] integer	name character varying (50)	opponent character varying (50)	coach character varying (50)	stadium_id integer
1	2100474	c487fefe98be7de3e12e854...	2f2f4648fcd1e0d13e3bd698...	116e8a42b5d0b50533dcca...	6
2	2100475	5a2321708d56fd002907bc1...	8e072eb3b5d92e7f2dc1ceff...	60c70d1d82e983385bd24d...	54
3	2100476	acc7a2fdca12c1ad695497...	d6af7d47540eb9d1cad3cc7...	f3d473b72d82ff553735cc6a...	445
4	2100477	5be8b5154f708795053bf6a...	e34a6d3c96519136e0ec8bd...	55214af4bd0e969190a0311...	2
5	2100478	6427ab105780510fc393ff6...	b41c45397aaaf7040526b5d...	6a098a260b1c953535c2c6e...	1

```
sql_random_query = """ INSERT INTO match (opp_score, own_score)
SELECT
    trunc(random()*1000)::int,
    trunc(random()*1000)::int
FROM
    generate_series(1, %s)
"""
```

```
sql_random_query = """ INSERT INTO stadium (name, city)
SELECT
    chr(trunc(65+random()*25)::int) || chr(trunc(65+random()*25)::int) ||
    chr(trunc(65+random()*25)::int) || chr(trunc(65+random()*25)::int) ||
    chr(trunc(65+random()*25)::int) || chr(trunc(65+random()*25)::int),
    chr(trunc(65+random()*25)::int) || chr(trunc(65+random()*25)::int) ||
    chr(trunc(65+random()*25)::int) || chr(trunc(65+random()*25)::int) ||
    chr(trunc(65+random()*25)::int) || chr(trunc(65+random()*25)::int)
FROM
    generate_series(1, %s)
"""
```



```
sql_random_query = """ INSERT INTO startdate (team_id, match_id, start_date)
SELECT team_id, match_id, dat FROM
(SELECT
team_id, match_id,
date '2000-01-10' + trunc(random()*10 * (date '2020-05-20' - date '2010-01-10'))::int as dat
FROM team, match tablesample BERNOULLI(100)
ORDER BY random()) k ,generate_series(1, 10000) LIMIT %s
"""
```

```
sql_random_query = """ INSERT INTO team (name, opponent, coach, stadium_id)
SELECT nam, opp, coach, stadium_id FROM
(SELECT md5((random()*1)::text) as nam,
md5((random()*2)::text) as opp,
md5((random()*3)::text) as coach,
stadium_id
FROM stadium tablesample BERNOULLI(100)
ORDER BY random()) k, generate_series(1, 10000) LIMIT %s
"""
```

Task 3:

1.

```
sql_specific_query = """ SELECT team_id, name as team_name, coach, opponent, stadium_name
FROM team AS a INNER JOIN
(SELECT name AS stadium_name, stadium_id FROM stadium WHERE name LIKE %s) AS aa
ON a.stadium_id=aa.stadium_id
WHERE opponent != %s AND team_id in (SELECT team_id FROM startdate WHERE start_date > %s)
"""
```

2.

```
sql_specific_query = """ WITH t_n AS (SELECT team_id FROM team WHERE length(name) < %s
AND name NOT SIMILAR TO %s)
SELECT start_date, opp_score, own_score FROM startdate AS a INNER JOIN
(SELECT match_id, opp_score, own_score FROM
match WHERE opp_score = own_score OR opp_score - own_score = %s) as aa
ON a.match_id=aa.match_id
WHERE team_id IN (SELECT team_id FROM t_n)
"""
```

3.

```
sql_specific_query = """ SELECT tid AS team_id, sum(cnt) sum_team, cc.n AS team_name,
cc.o AS opponent_name FROM (
SELECT team_id tid, count(team_id) cnt, n, o FROM startdate INNER JOIN
(SELECT team_id, name AS n, opponent AS o FROM team WHERE name LIKE %s) AS t USING (team_id)
WHERE start_date BETWEEN %s AND %s
GROUP BY team_id, t.n, t.o) cc
WHERE tid < %s
GROUP BY tid, cc.n, cc.o
ORDER BY tid
"""
```

Choose option:
 PRESS: 1 to add... 2 to update... 3 to delete... 4 to specific_select... 5 to show_table...

4

1) Show all info about team(name, coach, opponent), which played game on specific 'stadium', but not with that 'opponent', when matches took place later than that 'date'.

2) Show date, opp_score, own_score from those teams that have a draw or the difference between home and away teams in 'number of goal' and the length of home team is less then 'that number', except of 'such team'.

3) Show team_id, sum_team, team_name, opponent_name from those teams that have 'specific name', where match took place between 'date_1' and 'date_2' and team_id is less than 'that number'

Choose table:
 Press: 1 or 2 or 3

1

Enter values following this sequence stadium_name, opponent, start_date:
 stadium_name: %
 opponent: Worskla
 start_date: 2018-01-01

Time of request 25 ms

Show each row and it's columns values

team_id	team_name	coach	opponent	stadium_name
7	Brosław	Lortus	Corole	Karpaty
1	Shakhtar	Mokerc	A.V. Beshekt	Olimp
2	Dynamo	Bytuchuk	B.L. Hover	Datum

```

1 select team_id, name as team_name, coach, opponent, stadium_name from team as a inner join
2 (select name as stadium_name, stadium_id from stadium where name LIKE '%') as aa
3 on a.stadium_id=aa.stadium_id
4 where opponent != 'Worskla' and team_id in (Select team_id from startdate where start_date > '2018-01-01')

```

Data Output Explain Messages Notifications

	team_id integer	team_name character varying (50)	coach character varying (50)	opponent character varying (50)	stadium_name character varying (50)
1	7	Brosław	Lortus	Corole	Karpaty
2	1	Shakhtar	Mokerc A.V.	Beshekt	Olimp
3	2	Dynamo	Bytuchuk B.L.	Hover	Datum

```

1 EXPLAIN ANALYZE
2 select team_id, name as team_name, coach, opponent, stadium_name from team as a inner join
3 (select name as stadium_name, stadium_id from stadium where name LIKE '%') as aa
4 on a.stadium_id=aa.stadium_id
5 where opponent != 'Worskla' and team_id in (Select team_id from startdate where start_date > '2018-01-01')

```

Data Output Explain Messages Notifications

	QUERY PLAN
4	text
4	Group Key: startdate.team_id Read-only column
5	-> Seq Scan on startdate (cost=0.00..1791.10 rows=10 width=4) (actual time=0.106..13.209 rows=5 loops=1)
6	Filter: (start_date > '2018-01-01'::date)
7	Rows Removed by Filter: 100008
8	-> Index Scan using "Team_pkey" on team a (cost=0.42..8.44 rows=1 width=104) (actual time=0.008..0.008 rows=1 loops=3)
9	Index Cond: (team_id = startdate.team_id)
10	Filter: ((opponent)::text <> 'Worskla'::text)
11	-> Index Scan using "Stadium_pkey" on stadium (cost=0.15..0.17 rows=1 width=122) (actual time=0.003..0.004 rows=1 loops=3)
12	Index Cond: (stadium_id = a.stadium_id)
13	Filter: ((name)::text ~~ '%'::text)
14	Planning Time: 0.766 ms
15	Execution Time: 13.510 ms

1

Enter values following this sequence stadium_name, opponent, start_date:
stadium_name: *Karpaty*
opponent: *Worskla*
start_date: *2018-01-01*

Time of request 20 ms

Show each row and it's columns values

team_id	team_name	coach	opponent	stadium_name
7	Broslaw	Lortus	Corole	Karpaty

```
1 --EXPLAIN ANALYZE
2 select team_id, name as team_name, coach, opponent, stadium_name from team as a inner join
3   (select name as stadium_name, stadium_id from stadium where name LIKE 'Karpaty') as aa
4   on a.stadium_id=aa.stadium_id
5   where opponent != 'Worskla' and team_id in (Select team_id from startdate where start_date > '2018-01-01')
```

Data Output Explain Messages Notifications

	team_id integer	team_name character varying (50)	coach character varying (50)	opponent character varying (50)	stadium_name character varying (50)	
1	7	Broslaw	Lortus	Corole	Karpaty	

```
1 EXPLAIN ANALYZE
2 select team_id, name as team_name, coach, opponent, stadium_name from team as a inner join
3   (select name as stadium_name, stadium_id from stadium where name LIKE 'Karpaty') as aa
4   on a.stadium_id=aa.stadium_id
5   where opponent != 'Worskla' and team_id in (Select team_id from startdate where start_date > '2018-01-01')
```

Data Output Explain Messages Notifications

	QUERY PLAN	
	text	
5	-> Seq Scan on startdate (cost=0.00..1791.10 rows=10 width=4) (actual time=0.038..16.183 rows=5 loops=1)	
6	Filter: (start_date > '2018-01-01'::date)	
7	Rows Removed by Filter: 100008	
8	-> Index Scan using "Team_pkey" on team a (cost=0.42..8.44 rows=1 width=104) (actual time=0.012..0.012 rows=1 loops=3)	
9	Index Cond: (team_id = startdate.team_id)	
10	Filter: ((opponent)::text <> 'Worskla'::text)	
11	-> Index Scan using "Stadium_pkey" on stadium (cost=0.15..0.17 rows=1 width=122) (actual time=0.005..0.005 rows=0 loops=3)	
12	Index Cond: (stadium_id = a.stadium_id)	
13	Filter: ((name)::text ~~ 'Karpaty'::text)	
14	Rows Removed by Filter: 1	
15	Planning Time: 0.617 ms	
16	Execution Time: 16.337 ms	

2

Enter values following this sequence len_name, team_name, diff_score:

len_name: 8

team_name: Dolor

diff_score: 2

Time of request 218 ms

Show each row and it's columns values

start_date own_score opp_score

2019-12-12	2	2
2018-09-12	2	2
2000-01-18	1	1
2000-07-02	2	2
2000-07-13	3	3
2000-08-30	1	1
2000-12-26	3	3
2001-04-26	2	2

```
1 with t2 as (select team_id from team where length(name) < 8 and name not similar to 'Dehoj')
2 select start_date, own_score, opp_score from startdate as a inner join
3 (select match_id, opp_score, own_score from match where opp_score = own_score or opp_score - own_score = 2) as aa
4 on a.match_id=aa.match_id
5 where team_id in (Select team_id from t2)
```

Data Output Explain Messages Notifications

	start_date date	own_score integer	opp_score integer	
1	2019-12-12	2	2	
2	2018-09-12	2	2	
3	2000-01-18	1	1	
4	2000-07-02	2	2	
5	2000-07-13	3	3	
6	2000-08-30	1	1	
7	2000-12-26	3	3	
8	2001-04-26	2	2	

```
1 EXPLAIN ANALYZE
2 with t2 as (select team_id from team where length(name) < 8 and name not similar to 'Dolor')
3 select start_date from startdate as a inner join
4 (select match_id, opp_score, own_score from match where opp_score = own_score or opp_score - own_score = 2) as aa
5 on a.match_id=aa.match_id
6 where team_id in (Select team_id from t2)
```

Data Output Explain Messages Notifications

	QUERY PLAN text	
4	-> Seq Scan on startdate a (cost=0.00..1041.08 rows=100008 width=12) (actual time=0.038..11.042 rows=100013 loops=1)	
5	-> Hash (cost=1.91..1.91 rows=1 width=4) (actual time=0.044..0.045 rows=9 loops=1)	
6	Buckets: 1024 Batches: 1 Memory Usage: 9kB	
7	-> Seq Scan on match (cost=0.00..1.91 rows=1 width=4) (actual time=0.019..0.037 rows=9 loops=1)	
8	Filter: ((opp_score = own_score) OR ((opp_score - own_score) = 2))	
9	Rows Removed by Filter: 54	
10	-> Index Scan using "Team_pkey" on team (cost=0.42..0.74 rows=1 width=4) (actual time=0.005..0.005 rows=0 loops=14425)	
11	Index Cond: (team_id = a.team_id)	
12	Filter: (((name)::text !~ "(?Dolor)\$"::text) AND (length((name)::text) < 8))	
13	Rows Removed by Filter: 1	
14	Planning Time: 0.743 ms	
15	Execution Time: 115.709 ms	

2

Enter values following this sequence len_name, team_name, diff_score:

len_name: 100

team_name: Dynamo

diff_score: 1

Time of request 198 ms

Show each row and it's columns values

start_date own_score opp_score

2020-09-15 2 2

2020-12-12 2 1

2019-12-12 2 2

2000-02-01 1 0

2000-01-10 4 3

2000-01-10 4 3

2000-01-10 2 1

2000-01-10 4 4

2000-01-10 2 1

2000-01-10 2 1

```
1 --EXPLAIN ANALYZE
2 with t2 as (select team_id from team where length(name) < 100 and name not similar to 'Dynamo')
3 select start_date, own_score, opp_score from startdate as a inner join
4 (select match_id, opp_score, own_score from match where opp_score = own_score or opp_score - own_score = 1) as aa
5 on a.match_id=aa.match_id
6 where team_id in (Select team_id from t2)
```

Data Output Explain Messages Notifications

	start_date date	own_score integer	opp_score integer
1	2020-09-15	2	2
2	2020-12-12	1	2
3	2019-12-12	2	2
4	2000-02-01	0	1
5	2000-01-10	3	4
6	2000-01-10	3	4
7	2000-01-10	1	2
8	2000-01-10	4	4
9	2000-01-10	1	2
10	2000-01-10	1	2

```

1 EXPLAIN ANALYZE
2 with t2 as (select team_id from team where length(name) < 100 and name not similar to 'Dynamo')
3 select start_date from startdate as a inner join
4 (select match_id, opp_score, own_score from match where opp_score = own_score or opp_score - own_score = 1) as aa
5 on a.match_id=aa.match_id
6 where team_id in (Select team_id from t2)

```

Data Output Explain Messages Notifications

	QUERY PLAN	
	text	
4	-> Seq Scan on startdate a (cost=0.00..1341.08 rows=100008 width=12) (actual time=0.039..15.130 rows=100013 loops=1)	
5	-> Hash (cost=1.91..1.91 rows=1 width=4) (actual time=0.051..0.052 rows=11 loops=1)	
6	Buckets: 1024 Batches: 1 Memory Usage: 9kB	
7	-> Seq Scan on match (cost=0.00..1.91 rows=1 width=4) (actual time=0.023..0.042 rows=11 loops=1)	
8	Filter: ((opp_score = own_score) OR ((opp_score - own_score) = 1))	
9	Rows Removed by Filter: 52	
10	-> Index Scan using "Team_pkey" on team (cost=0.42..0.74 rows=1 width=4) (actual time=0.006..0.006 rows=1 loops=17565)	
11	Index Cond: (team_id = a.team_id)	
12	Filter: (((name)::text !~ '^(?:Dynamo)\$::text) AND (length((name)::text) < 100))	
13	Rows Removed by Filter: 0	
14	Planning Time: 0.890 ms	
15	Execution Time: 174.480 ms	

3

Enter values following this sequence team_name, date_start, date_finish, team_id:

team_name: %

date_start: 2015-01-01

date_finish: 2020-07-11

team_id: 15

Time of request 7 ms

Show each row and it's columns values

	team_id	sum_team	team_name	opponent_name
2	1		Dynamo	Hover
7	1		Brosław	Corole

```

1 select tid as team_id, sum(cnt) sum_team, cc.n as team_name, cc.o as opponent_name from (
2 select team_id tid, count(team_id) cnt, n, o from startdate inner join (
3 Select team_id, name as n, opponent as o from team where name LIKE '%') as t
4 using (team_id)
5 where start_date between '2015-01-01' and '2020-07-11'
6 group by team_id, t.n, t.o
7 ) cc
8 where tid < 15
9 group by tid, cc.n, cc.o
10 order by tid

```

Data Output Explain Messages Notifications

	team_id	sum_team	team_name	opponent_name
	integer	numeric	character varying (50)	character varying (50)
1	2	1	Dynamo	Hover
2	7	1	Brosław	Corole


```

1  EXPLAIN ANALYZE
2  select tid as team_id, sum(cnt) sum_team, cc.n as team_name, cc.o as opponent_name from (
3  select team_id tid, count(team_id) cnt, n, o from startdate inner join (
4      Select team_id, name as n, opponent as o from team where name LIKE '%') as t
5      using (team_id)
6      where start_date between '2016-01-01' and '2020-07-11'
7      group by team_id, t.n, t.o
8  ) cc
9  where tid < 15
10 group by tid, cc.n, cc.o
11 order by tid

```

Data Output Explain Messages Notifications

QUERY PLAN		
	text	
10	Index Cond: (team_id < 15)	
11	Filter: ((start_date >= '2016-01-01'::date) AND (start_date <= '2020-07-11'::date))	
12	Rows Removed by Filter: 13	
13	-> Index Scan using "Team_pkey" on team (cost=0.42..8.44 rows=1 width=68) (actual time=0.012..0.012 rows=1 loops=2)	
14	Index Cond: (team_id = startdate.team_id)	
15	Filter: ((name)::text ~~ '%'::text)	
16	Planning Time: 0.679 ms	
17	Execution Time: 0.222 ms	

3

Enter values following this sequence team_name, date_start, date_finish, team_id:

team_name: *Dynamo*

date_start: *2010-02-02*

date_finish: *2021-01-01*

team_id: *100000*

Time of request 2 ms

Show each row and it's columns values

team_id	sum_team	team_name	opponent_name
2	2	Dynamo	Hover

```

1  --EXPLAIN ANALYZE
2  select tid as team_id, sum(cnt) sum_team, cc.n as team_name, cc.o as opponent_name from (
3  select team_id tid, count(team_id) cnt, n, o from startdate inner join (
4      Select team_id, name as n, opponent as o from team where name LIKE 'Dynamo') as t
5      using (team_id)
6      where start_date between '2016-01-01' and '2020-07-11'
7      group by team_id, t.n, t.o
8  ) cc
9  where tid < 15
10 group by tid, cc.n, cc.o
11 order by tid

```

Data Output Explain Messages Notifications

	team_id integer	sum_team numeric	team_name character varying (50)	opponent_name character varying (50)	
1	2	1	Dynamo	Hover	

```

1  EXPLAIN ANALYZE
2  select tid as team_id, sum(cnt) sum_team, cc.n as team_name, cc.o as opponent_name from (
3  select team_id tid, count(team_id) cnt, n, o from startdate inner join (
4      Select team_id, name as n, opponent as o from team where name LIKE 'Dynamo') as t
5      using (team_id)
6      where start_date between '2016-01-01' and '2020-07-11'
7      group by team_id, t.n, t.o
8  ) cc
9  where tid < 15
10 group by tid, cc.n, cc.o
11 order by tid

```

Data Output Explain Messages Notifications

QUERY PLAN		
	text	
11	Filter: ((start_date >= '2016-01-01'::date) AND (start_date <= '20...	
12	Rows Removed by Filter: 13	
13	-> Index Scan using "Team_pkey" on team (cost=0.42..8.44 rows=...	
14	Index Cond: (team_id = startdate.team_id)	
15	Filter: ((name)::text ~~ 'Dynamo'::text)	
16	Rows Removed by Filter: 1	
17	Planning Time: 0.683 ms	
18	Execution Time: 0.169 ms	

