

## TASK 2 :

A telecommunications company decided to find which of their clients talked for at least 10 minutes on the phone in total and offer them a new contract.

You are given two tables, `phones` and `calls`, with the following structure:

```
create table phones (
  name varchar(20) not null unique,
  phone_number integer not null unique
);

create table calls (
  id integer not null,
  caller integer not null,
  callee integer not null,
  duration integer not null,
  unique(id)
);
```

Each row of the table `phones` contains information about a client: name (`name`) and phone number (`phone_number`). Each client has only one phone number. Each row of the table `calls` contains information about a single call: id (`id`), phone number of the caller (`caller`), phone number of the callee (`callee`) and duration of the call in minutes (`duration`).

Write an SQL query that finds all clients who talked for at least 10 minutes in total. The table of results should contain one column: the name of the client (`name`). Rows should be sorted alphabetically.

Examples:

1. Given:

phones:

name	phone_number
Jack	1234
Lena	3333
Mark	9999
Anna	7582

Task 2 ###

Programming Language  
SQL (PostgreSQL)

Select language  
English

calls:

id	caller	callee	duration
25	1234	7582	8
7	9999	7582	1
18	9999	3333	4
2	7582	3333	3
3	3333	1234	1
21	3333	1234	1

your query should return:

name
Anna
Jack

Jack talked three times and the total duration of his calls is  $8 + 1 + 1 = 10$ . Lena talked four times and the total duration of her calls is  $4 + 3 + 1 + 1 = 9$ . Mark talked twice and the total duration of calls is  $1 + 4 = 5$ . Anna talked three times and the total duration of her calls is  $8 + 1 + 3 = 12$ . Anna and Jack both talked for at least 10 minutes.

2. Given:

phones:

name	phone_number
John	6356
Addison	4315
Kate	8003
Ginny	9831

calls:

id	caller	callee	duration
65	8003	9831	7
100	9831	8003	3
145	4315	9831	18

Task 2 ###

1

2

3

and the total duration of her calls is  $4 + 3 + 1 + 1 = 9$ . Mark talked twice and the total duration of his calls is  $1 + 4 = 5$ . Anna talked three times and the total duration of her calls is  $8 + 1 + 3 = 12$ . Anna and Jack both talked for at least 10 minutes.

2. Given:

phones:

name	phone_number
John	6356
Addison	4315
Kate	8003
Ginny	9831

calls:

id	caller	callee	duration
65	8003	9831	7
100	9831	8003	3
145	4315	9831	18

your query should return:

name
Addison
Ginny
Kate

Assume that:

- values of the `name` column are strings consisting of lower- and uppercase letters;
- values of the `phone_number` column are integers within the range [1,000..9,999];
- values of `id` column in `calls` are integers within the range [1..1,000,000];
- each value in the `caller` or `callee` column occurs in the `phone_number` column in `phones` table;
- in each row of `calls` table, values of `caller` and `callee` are different (the call is between two different clients);
- values of the `duration` column are integers within the range [1..100].

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### **Solution 1:**

```
create table phones (  
name varchar (20) not null unique,  
phone_number int not null unique);
```

```
create table calls (  
id int not null,  
caller int not null,  
callee int not null,  
duration int not null,  
unique (id));
```

```
select * from phones;  
select * from calls;
```

```
insert into phones values ('Jack', 1234);  
insert into phones values ('Lena', 3333);  
insert into phones values ('Mark', 9999);  
insert into phones values ('Anna', 7582);
```

```
insert into calls values (25, 1234, 7582, 8);  
insert into calls values (7,9999, 7582, 1);  
insert into calls values (18,9999, 3333, 4);  
insert into calls values (2,7582, 3333, 3);  
insert into calls values (3,3333, 1234, 1);  
insert into calls values (21, 3333, 1234, 1);
```

```

with call_mins as (
select caller as number, sum(duration) as duration from calls group by caller
union all
select callee as number, sum(duration) as duration from calls group by callee
)
SELECT name
FROM phones inner join call_mins on phones.phone_number = call_mins.number
GROUP BY name
HAVING SUM (duration) >= 10
ORDER BY name

```

### **OUTPUT:**

	name
▶	Anna
	Jack

### **Solution 2:**

```

create table phones (
name varchar (20) not null unique,
phone_number int not null unique);

```

```

create table calls (
id int not null,
caller int not null,
callee int not null,
duration int not null,
unique (id));

```

```
select * from phones;
```

```
select * from calls;
```

```
insert into phones values ('John', 6356);
```

```
insert into phones values ('Addison', 4315);
```

```
insert into phones values ('Kate', 8003);
```

```
insert into phones values ('Ginny', 9831);
```

```
insert into calls values (65, 8003, 9831, 7);
```

```
insert into calls values (100,9831, 8003, 3);
```

```
insert into calls values (145,4315, 9831, 18);
```

```
with call_mins as (
```

```
select caller as number, sum(duration) as duration from calls group by caller
```

```
union all
```

```
select callee as number, sum(duration) as duration from calls group by callee
```

```
)
```

```
SELECT name
```

```
FROM phones inner join call_mins on phones.phone_number = call_mins.number
```

```
GROUP BY name
```

```
HAVING SUM (duration) >= 10
```

```
ORDER BY name
```

### **OUTPUT:**

	name
▶	Addison
	Ginny
	Kate