

VARSHA.S

1BM19CS179

SUPPLIER DATABASE:

create database SUPPLIER;

use SUPPLIER;

create table SUPPLIERS(sid BIGINT(5) primary key, sname varchar(20), city varchar(20));

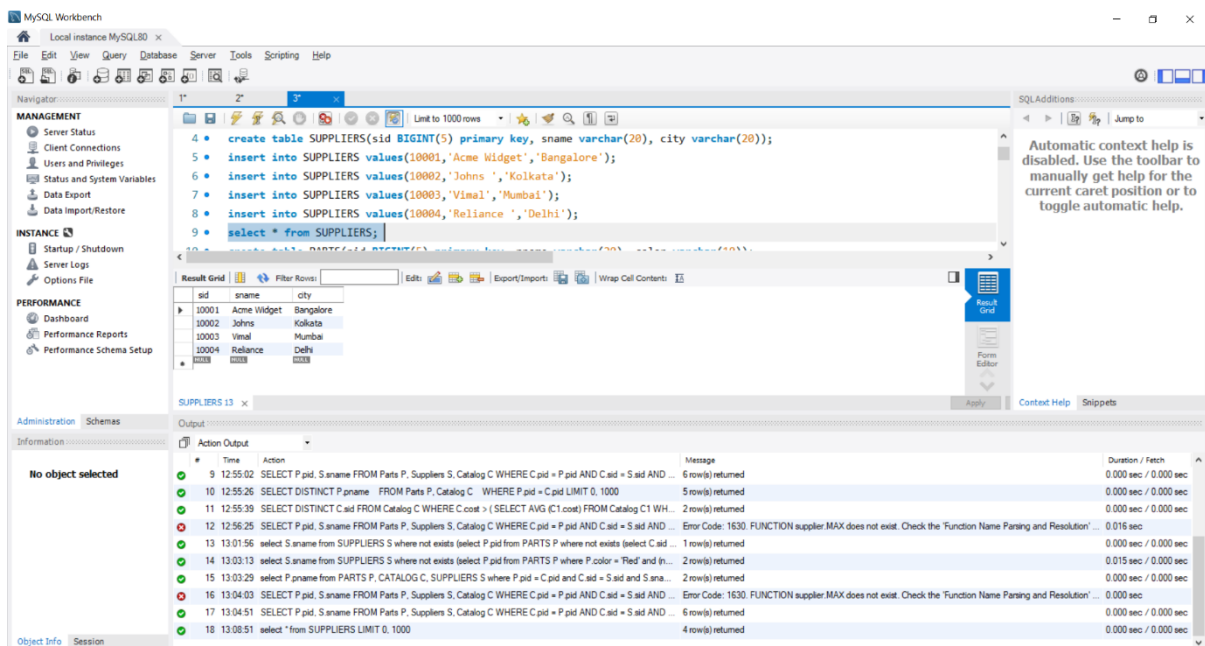
insert into SUPPLIERS values(10001,'Acme Widget','Bangalore');

insert into SUPPLIERS values(10002,'Johns ','Kolkata');

insert into SUPPLIERS values(10003,'Vimal','Mumbai');

insert into SUPPLIERS values(10004,'Reliance ','Delhi');

select * from SUPPLIERS;



create table PARTS(pid BIGINT(5) primary key, pname varchar(20), color varchar(10));

insert into PARTS values(20001,'Book','RED');

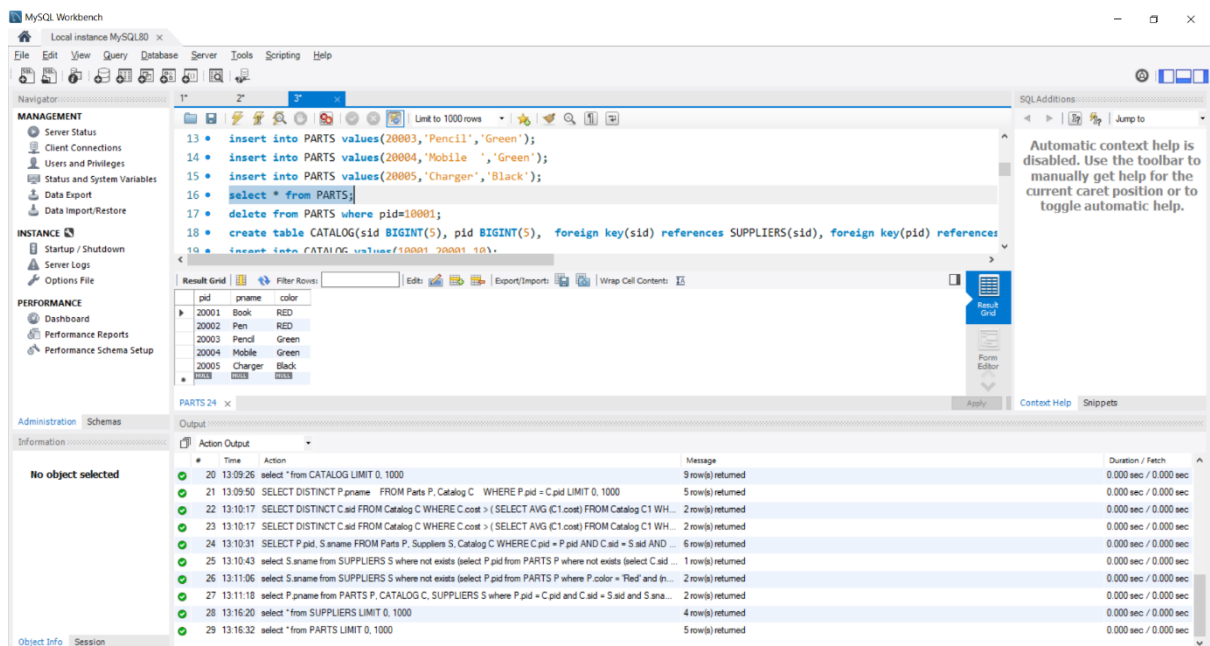
insert into PARTS values(20002,'Pen','RED');

insert into PARTS values(20003,'Pencil','Green');

insert into PARTS values(20004,'Mobile ','Green');

insert into PARTS values(20005,'Charger','Black');

select * from PARTS;



create table CATALOG(sid BIGINT(5), pid BIGINT(5), foreign key(sid) references SUPPLIERS(sid), foreign key(pid) references PARTS(pid), cost float(6), primary key(sid, pid));

insert into CATALOG values(10001,20001,10);

insert into CATALOG values(10001,20002,10);

insert into CATALOG values(10001,20003,30);

insert into CATALOG values(10001,20004,10);

insert into CATALOG values(10001,20005,10);

insert into CATALOG values(10002,20001,10);

insert into CATALOG values(10002,20002,20);

insert into CATALOG values(10003,20003,30);

insert into CATALOG values(10004,20003,40);

select * from CATALOG;

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following queries:

```
25 • insert into CATALOG values(10002,20002,20);
26 • insert into CATALOG values(10003,20003,30);
27 • insert into CATALOG values(10004,20003,40);
28 • select * from CATALOG;
```

The Result Grid displays the data from the CATALOG table:

sid	pid	cost
10001	20002	10
10001	20003	30
10001	20004	10
10001	20005	10
10002	20001	10
10002	20002	20
10003	20003	30
10004	20003	40

The Output tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
21	13:09:50	SELECT DISTINCT P.pname FROM Parts P, Catalog C WHERE P.pid = C.pid LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
22	13:10:17	SELECT DISTINCT C.aid FROM Catalog C WHERE C.cost > (SELECT AVG (C1.cost) FROM Catalog C1 WHERE C1.aid = C.aid)	2 row(s) returned	0.000 sec / 0.000 sec
23	13:10:17	SELECT DISTINCT C.aid FROM Catalog C WHERE C.cost > (SELECT AVG (C1.cost) FROM Catalog C1 WHERE C1.aid = C.aid)	2 row(s) returned	0.000 sec / 0.000 sec
24	13:10:31	SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.aid = S.aid AND S.sname = 'Red'	6 row(s) returned	0.000 sec / 0.000 sec
25	13:10:43	select S.sname from Suppliers S where not exists (select P.pid from Parts P where not exists (select C.aid from Catalog C where C.pid = P.pid and C.aid = S.aid and S.sname = 'Red'))	1 row(s) returned	0.000 sec / 0.000 sec
26	13:11:06	select S.sname from Suppliers S where not exists (select P.pid from Parts P where P.color = 'Red' and P.pname = 'Red')	2 row(s) returned	0.000 sec / 0.000 sec
27	13:11:18	select P.pname from Parts P, Catalog C, Suppliers S where P.pid = C.pid and C.aid = S.aid and S.sname = 'Red'	2 row(s) returned	0.000 sec / 0.000 sec
28	13:16:20	select * from Suppliers LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
29	13:16:32	select * from Parts LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
30	13:16:48	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec

```
/* 1 */
```

```
SELECT DISTINCT P.pname
```

```
FROM Parts P, Catalog C
```

```
WHERE P.pid = C.pid;
```

The screenshot displays the MySQL Workbench interface. The SQL editor contains the following query:

```
28 select * from CATALOG;
29 /* 1 */
30 SELECT DISTINCT P.pname
31 FROM Parts P, Catalog C
32 WHERE P.pid = C.pid;
33 /* 2
34 SELECT S.sname FROM SUPPLIERS S
```

The Results tab shows the output of the query, displaying a table with the following data:

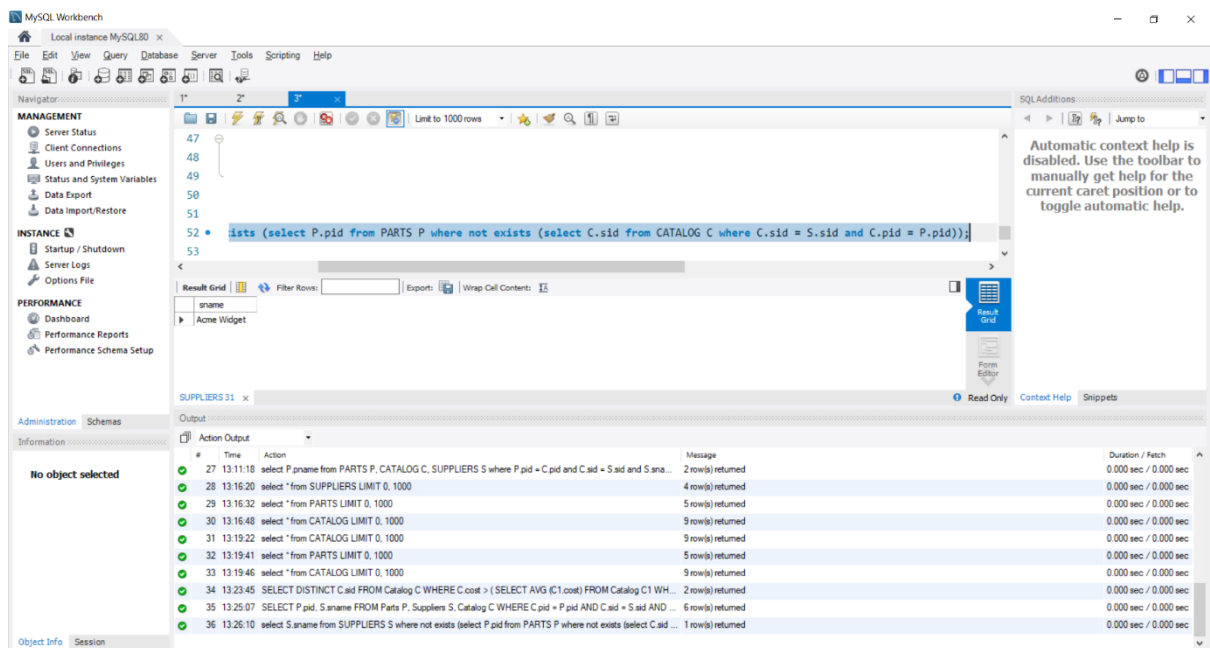
pname
Book
Pen
Pencil
Mobile
Charger

The Output tab shows the execution log, including the following messages:

- 12 12:56:25 SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.cid = S.cid AND ... Error Code: 1630: FUNCTION supplier.MAX does not exist. Check the 'Function Name Parsing and Resolution' ... 0.016 sec
- 13 13:01:56 select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.cid ... 1 row(s) returned 0.000 sec / 0.000 sec
- 14 13:03:13 select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and in ... 2 row(s) returned 0.015 sec / 0.000 sec
- 15 13:03:29 select P.pname from PARTS P, CATALOG C, SUPPLIERS S where P.pid = C.pid and C.cid = S.cid and S.sna ... 2 row(s) returned 0.000 sec / 0.000 sec
- 16 13:04:03 SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.cid = S.cid AND ... Error Code: 1630: FUNCTION supplier.MAX does not exist. Check the 'Function Name Parsing and Resolution' ... 0.000 sec
- 17 13:04:51 SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.cid = S.cid AND ... 6 row(s) returned 0.000 sec / 0.000 sec
- 18 13:08:51 select * from SUPPLIERS LIMIT 0, 1000 4 row(s) returned 0.000 sec / 0.000 sec
- 19 13:09:07 select * from PARTS LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec
- 20 13:09:26 select * from CATALOG LIMIT 0, 1000 9 row(s) returned 0.000 sec / 0.000 sec
- 21 13:09:50 SELECT DISTINCT P.pname FROM Parts P, Catalog C WHERE P.pid = C.pid LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec

-- Query 2

select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));



The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
123 1st (select P.pid from PARTS P where not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));
```

The Results tab is active, showing the output of the query. The table structure is as follows:

Table	Columns
SUPPLIERS	sname

The data returned by the query is:

sname
Acme Widget

The bottom pane shows the execution log with the following details:

#	Time	Action	Message	Duration / Fetch
27	13:11:18	select P.pname from PARTS P, CATALOG C, SUPPLIERS S where P.pid = C.pid and C.sid = S.sid and S.sname = 'Acme Widget'	2 row(s) returned	0.000 sec / 0.000 sec
28	13:16:20	select * from SUPPLIERS LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
29	13:16:32	select * from PARTS LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
30	13:16:48	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
31	13:19:22	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
32	13:19:41	select * from PARTS LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
33	13:19:46	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
34	13:23:45	SELECT DISTINCT C.sid FROM Catalog C WHERE C.cost > (SELECT AVG (C1.cost) FROM Catalog C1 WHERE C1.cost > C.cost)	2 row(s) returned	0.000 sec / 0.000 sec
35	13:25:07	SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.sid = S.sid AND S.sname = 'Acme Widget'	6 row(s) returned	0.000 sec / 0.000 sec
36	13:26:10	select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));	1 row(s) returned	0.000 sec / 0.000 sec

-- Query 3

select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and (not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid)));

The screenshot displays the MySQL Workbench interface. The main editor window contains a SQL query with line numbers 49 through 55. The query is as follows:

```
49 WHERE C1.pid = P.pid);
50
51 -- Query 2
52 select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid from CATALOG C
53 -- Query 3
54 select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and (not exists (select
55 -- Query 4
```

The interface includes a left-hand sidebar with navigation panels for 'MANAGEMENT', 'INSTANCE', 'PERFORMANCE', and 'Administration'. The 'MANAGEMENT' panel shows 'Server Status', 'Client Connections', 'Users and Privileges', 'Status and System Variables', and 'Data Export/Restore'. The 'INSTANCE' panel shows 'Startup / Shutdown', 'Server Logs', and 'Options File'. The 'PERFORMANCE' panel shows 'Dashboard', 'Performance Reports', and 'Performance Schema Setup'. The 'Administration' panel shows 'Schemas'.

The main editor window has a toolbar with icons for file operations, query execution, and other database functions. Below the editor, there is a 'Result Grid' tab showing a table with two columns: 'sname' and 'Johns'. The 'Output' tab is also visible, showing a list of actions and their results.

The 'Output' tab displays a table with the following columns: #, Time, Action, Message, and Duration / Fetch. The table contains 13 rows of data, showing the execution of various SQL queries and their results.

#	Time	Action	Message	Duration / Fetch
28	13:16:20	select * from SUPPLIERS LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec
29	13:16:32	select * from PARTS LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
30	13:16:48	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
31	13:19:22	select * from PARTS LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
32	13:19:41	select * from PARTS LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
33	13:19:46	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
34	13:23:45	SELECT DISTINCT C.aid FROM Catalog C WHERE C.cost > (SELECT AVG (C1.cost) FROM Catalog C1 WH...	2 row(s) returned	0.000 sec / 0.000 sec
35	13:25:07	SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.aid = S.aid AND ...	6 row(s) returned	0.000 sec / 0.000 sec
36	13:26:10	select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.aid ...	1 row(s) returned	0.000 sec / 0.000 sec
37	13:26:38	select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and (n...	2 row(s) returned	0.000 sec / 0.000 sec

-- Query 4

select P.pname from PARTS P, CATALOG C, SUPPLIERS S where P.pid = C.pid and C.sid = S.sid and S.sname = 'Acme Widget' and not exists (select * from CATALOG C1, SUPPLIERS S1 where P.pid = C1.pid and C1.sid = S1.sid and S1.sname <> 'Acme Widget');

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
51
52 .here C.sid = S.sid and C.pid = P.pid));
53
54 .:sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));
55
56 not exists (select * from CATALOG C1, SUPPLIERS S1 where P.pid = C1.pid and C1.sid = S1.sid and S1.sname <> 'Acme Widget');
```

The query is executed, and the results are displayed in the 'Result Grid' tab. The results show a single row with the column 'pname' and the value 'Charger'.

#	Time	Action	Message	Duration / Fetch
29	13:16:32	select * from PARTS LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
30	13:16:48	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
31	13:19:22	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
32	13:19:41	select * from PARTS LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
33	13:19:46	select * from CATALOG LIMIT 0, 1000	9 row(s) returned	0.000 sec / 0.000 sec
34	13:23:45	SELECT DISTINCT C.sid FROM CATALOG C WHERE C.cost > (SELECT AVG (C1.cost) FROM CATALOG C1 WH...	2 row(s) returned	0.000 sec / 0.000 sec
35	13:25:07	SELECT P.pid, S.sname FROM Parts P, Suppliers S, Catalog C WHERE C.pid = P.pid AND C.sid = S.sid AND...	6 row(s) returned	0.000 sec / 0.000 sec
36	13:26:10	select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid ...	1 row(s) returned	0.000 sec / 0.000 sec
37	13:26:30	select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and in...	2 row(s) returned	0.000 sec / 0.000 sec
38	13:26:46	select P.pname from PARTS P, CATALOG C, SUPPLIERS S where P.pid = C.pid and C.sid = S.sid and S.sname...	2 row(s) returned	0.000 sec / 0.000 sec

-- Query 5

```
SELECT DISTINCT C.sid FROM Catalog C
WHERE C.cost > ( SELECT AVG (C1.cost)
FROM Catalog C1
WHERE C1.pid = C.pid );
```

The screenshot displays the MySQL Workbench interface. The main editor window shows the following SQL query:

```
-- Query 5
35 SELECT DISTINCT C.sid FROM Catalog C
36 WHERE C.cost > ( SELECT AVG (C1.cost)
37 FROM Catalog C1
38 WHERE C1.pid = C.pid );
```

The query is executed, and the results are displayed in the 'Result Grid' tab. The results show two rows of data:

sid
10002
10004

The bottom panel shows the 'Output' tab with a log of actions and messages. The log indicates that the query was executed successfully, returning 2 rows. The 'Message' column shows the duration of each step, and the 'Duration / Fetch' column shows the total duration of the query execution.

-- Query 6

SELECT P.pid, S.sname

FROM Parts P, Suppliers S, Catalog C

WHERE C.pid = P.pid

AND C.sid = S.sid

AND C.cost = (SELECT MAX(C1.cost)

FROM Catalog C1

WHERE C1.pid = P.pid);

The screenshot displays the MySQL Workbench interface. The central editor shows the following SQL query:

```
-- Query 6
SELECT P.pid, S.sname
FROM Parts P, Suppliers S, Catalog C
WHERE C.pid = P.pid
AND C.sid = S.sid
AND C.cost = (SELECT MAX(C1.cost)
FROM Catalog C1
WHERE C1.pid = P.pid);
```

The 'Result Grid' tab is active, showing the following data:

pid	sname
20001	Acme Widget
20004	Acme Widget
20005	Acme Widget
20001	Johns
20002	Johns
20003	Relance

The 'Output' tab is also visible, showing a list of actions and their durations. The first action is:

#	Time	Action	Message	Duration / Fetch
26	13:11:06	select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and (P...	2 row(s) returned	0.000 sec / 0.000 sec