

Q1)

```
create table mytable1  
( col1 integer not null, col2 char(1) not null) partitioning key col1 on all;
```

```
insert into mytable1 values(1, 'A');  
insert into mytable1 values(2, 'B');  
insert into mytable1 values(3, 'C');  
insert into mytable1 values(4, 'D');  
insert into mytable1 values(5, 'E');
```

```
create table mytable2  
( fld1 integer not null, fld2 char(2) not null) replicated;
```

```
insert into mytable2 values(101, 'NL');  
insert into mytable2 values(102, 'PE');  
insert into mytable2 values(103, 'NS');  
insert into mytable2 values(104, 'NB');
```

i) show table mytable1;

```
Stado -> show table mytable1;  
+-----+  
| COLUMN_NAME | SQL_DATA_TYPE | TYPE_NAME | IS_NULLABLE | KEY | DEFAULT |  
+-----+  
| col1        |          4 | INTEGER   | NO          | NO  |          |  
| col2        |          1 | CHAR(1)  | NO          | NO  |          |  
+-----+  
2 row(s).  
Response time: 0m 0s 4ms Total time: 0m 0s 4ms
```

```
Stado -> █
```

ii)

```
Stado -> select * from mytable1;  
+-----+  
| col1 | col2 |  
+-----+  
| 1   | A    |  
| 2   | B    |  
| 3   | C    |  
| 4   | D    |  
| 5   | E    |  
+-----+  
5 row(s).  
Response time: 0m 0s 31ms Total time: 0m 0s 31ms
```

```
Stado -> █
```

iii)

```
Stado -> show table mytable2;
+-----+
| COLUMN_NAME | SQL_DATA_TYPE | TYPE_NAME | IS_NULLABLE | KEY | DEFAULT |
+-----+
| fld1         |          4 | INTEGER   | NO          | NO  |        |
| fld2         |          1 | CHAR(2)   | NO          | NO  |        |
+-----+
2 row(s).
Response time: 0m 0s 517ms Total time: 0m 0s 517ms

Stado -> █
```

iv)

```
Stado -> select * from mytable2;
+-----+
| fld1 | fld2 |
+-----+
| 101 | NL   |
| 102 | PE   |
| 103 | NS   |
| 104 | NB   |
+-----+
4 row(s).
Response time: 0m 0s 9ms Total time: 0m 0s 9ms

Stado -> █
```

Q2)

i)

Average with stado  
query3

2<sup>nd</sup> run -> 12s 84ms >12084ms

3<sup>rd</sup> run -> 7s 559ms > 7559ms

average > 9821.5 ms

Average with PostgreSQL  
query3

2<sup>nd</sup> run -> 20792.9 ms

3<sup>rd</sup> run -> 20158.3 ms

average > 20475.6ms

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**Average with stado**

**query4**

2<sup>nd</sup> run -> 2s 428ms > 2428ms

3<sup>rd</sup> run -> 2s 276ms > 2276ms

average > 2352 ms

**Average with PostgreSQL**

**query4**

2<sup>nd</sup> run -> 15313.4ms

3<sup>rd</sup> run -> 14951.1ms

average > 15132.3ms

**Average with stado**

**query14**

2<sup>nd</sup> run -> 1s 484ms > 1484ms

3<sup>rd</sup> run -> 1s 420ms > 1420ms

average > 1452ms

**Average with PostgreSQL**

**query14**

2<sup>nd</sup> run -> 11457.7ms

3<sup>rd</sup> run -> 11637.3ms

average > 11547.5ms

SpeedUp = uniprocessor runtime (PostgreSQL)/parallel runtime (stado) = T1/Tp

Q3 speed up = 20475.6ms / 9821.5 ms = 2.085ms

Q4 speed up = 15132.3ms / 2352 ms = 6.434 ms

Q14 speed up = 11547.5ms / 1452ms = 7.953ms