

Test 1:

Targeted queries: Q1, Q2

Test File: 100_times_same_route_then_change_MainGenerateRoutes.csv

What is in the file:

One taxi drives always the same route from cell 1.1 to 1.3. It departs every 2 minutes and arrives 1 minute later. It does so for 100 trips and then makes another 100 trips from cell 1.3 to 1.4 with the same timing.

What the output should be for query 1:

After the first trip, the route from 1.1 to 1.3 is most frequent and remains to be the only most frequent route for 200 minutes. Then a second route appears (i.e. 1.3 to 1.4) which is the second most frequent for 14 minutes, then the route 1.3 to 1.4 becomes most frequent. 224 minutes after the start. 30 minutes after the last trip from 1.1. to 1.3, the route 1.3 to 1.4 becomes the only most frequent route (at 3:52:00).

What the output should be for query 2:

There is never an empty taxi in an area where a reported trip originated. This is because we simulate only one taxi. Hence, query 2 should have no output.

Test 2:

Targeted queries: Q1

Test file: 30_routes.csv

What is in the file:

The file contains the following defined sequence of routes:

1.3,1.3

1.4,1.4

1.5,1.5

1.1,1.6

1.3,1.1

1.4,1.3

1.5,1.4

1.1,1.5

1.3,1.6

1.4,1.1

1.5,1.3

1.1,1.4

1.3,1.5

1.4,1.6

1.5,1.1

1.1,1.3

1.3,1.4

1.4,1.5

1.5,1.6

1.1,1.1

1.3,1.3

1.4,1.4

1.5,1.5

1.1,1.6

1.3,1.1

1.4,1.3

1.5,1.4

1.1,1.5

1.3,1.6

1.4,1.1

What the output should be for query 1:

As sample for a correct output is given below. Note that the last attribute in each line is a fake delay measurement.

2013-01-01 00:01:00,2013-01-01

00:03:00,1.3,1.3,NULL,NULL,NULL,NULL,NULL,NULL,NULL,1

2013-01-01 00:01:00,2013-01-01

00:03:00,1.4,1.4,1.3,1.3,NULL,NULL,NULL,NULL,NULL,NULL,1

2013-01-01 00:02:00,2013-01-01
00:03:00,1.5,1.5,1.4,1.4,1.3,1.3,NULL,NULL,NULL,NULL,NULL,NULL,2

2013-01-01 00:02:00,2013-01-01
00:03:00,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,NULL,NULL,NULL,NULL,NULL,NULL,2

2013-01-01 00:03:00,2013-01-01
00:04:00,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,NULL,NULL,NULL,NULL,NULL,2

2013-01-01 00:00:00,2013-01-01
00:04:00,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,NULL,NULL,NULL,NULL,2

2013-01-01 00:00:00,2013-01-01
00:04:00,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,NULL,NULL,NULL,2

2013-01-01 00:01:00,2013-01-01
00:04:00,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,NULL,NULL,2

2013-01-01 00:03:00,2013-01-01
00:04:00,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,NULL,2

2013-01-01 00:01:00,2013-01-01
00:04:00,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,3

2013-01-01 00:03:00,2013-01-01
00:04:00,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,3

2013-01-01 00:01:00,2013-01-01
00:04:00,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,10

2013-01-01 00:03:00,2013-01-01
00:04:00,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,10

2013-01-01 00:03:00,2013-01-01
00:05:00,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,10

2013-01-01 00:00:00,2013-01-01
00:05:00,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,11

2013-01-01 00:02:00,2013-01-01
00:05:00,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,12

2013-01-01 00:00:00,2013-01-01
00:05:00,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,1.1,1.5,12

2013-01-01 00:00:00,2013-01-01
00:05:00,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,1.3,1.6,12

2013-01-01 00:01:00,2013-01-01
00:05:00,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,1.4,1.1,12

2013-01-01 00:04:00,2013-01-01
00:05:00,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,1.5,1.3,2

2013-01-01 00:04:00,2013-01-01
00:06:00,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,1.1,1.4,2

2013-01-01 00:00:00,2013-01-01
00:06:00,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,1.3,1.5,12

2013-01-01 00:05:00,2013-01-01
00:06:00,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1.4,1.6,12

2013-01-01 00:02:00,2013-01-01
00:06:00,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,1.5,1.1,1

2013-01-01 00:04:00,2013-01-01
00:06:00,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1.1,1.3,2

2013-01-01 00:01:00,2013-01-01
00:06:00,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,1.3,1.4,1

2013-01-01 00:03:38,2013-01-01
00:06:59,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,1.4,1.5,20

2013-01-01 00:03:00,2013-01-01
00:07:00,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.5,1.6,10

2013-01-01 00:00:00,2013-01-01
00:07:00,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,4

2013-01-01 00:03:00,2013-01-01
00:07:00,1.4,1.1,1.3,1.6,1.1,1.5,1.5,1.4,1.4,1.3,1.3,1.1,1.1,1.6,1.5,1.5,1.4,1.4,1.3,1.3,8

Test 3:

Targeted queries: Q2

Test File: two_taxies.csv

What is in the file:

There are two taxies. One always makes trips from 1.1 to 1.5 and the other from 1.5 to 1.1. Trips start every 4 minutes and take a minute. The second taxi starts its first trip two minutes after the first one. Fares for both taxis are continuously increasing (the last trip always has the highest fare).

What the output should be for query 2:

After the first two trips, there is always one taxi assumed to be waiting in both areas. (The updates that a taxi has been elsewhere coincides with the information that the taxi must again assumed to be empty in the same area.). The trip fares - and hence the average profit - increase with each trip.

Thus, the two cell ids 1.1 and 1.5 must alternate as most profitable area in the output and each event must create a new output.