

**SCHEMA: bmgmtsys**

**TABLE NAME : amts**

use bmgmtsys;

CREATE TABLE amts (

    BusId INT PRIMARY KEY,

    BusNo VARCHAR(50),

    BusCo VARCHAR(30),

    Busroute VARCHAR(40),

    Dtofissue DATE,

    fueltype VARCHAR(20),

    deptsrc VARCHAR(50),

    arrvsrc VARCHAR(50),

    stops INT,

    maintdue DATE

);

INSERT INTO amts(BusId, BusNo, BusCo, Busroute, Dtofissue, fueltype, deptsrc, arrvsrc, stops, maintdue)

VALUES

(1, 'HJ-01-7373', 'Tata', '79-D', '2020-10-05', 'CNG', 'Godrej Garden City', 'Badrinarayan Society', 66, '2023-08-04'),

(2, 'HJ-01-3832', 'Tata', '66/3sh-D', '2019-12-04', 'CNG', 'Moti Bhayan Chokdi', 'Sarangpur', 66, '2023-10-24'),

(3, 'HJ-02-9845', 'Ashok Leyland', '117/1-U', '2021-01-05', 'Petrol', 'Kalupur Terminus', 'Mirolu Gam', 55, '2023-12-20'),

(4, 'HJ-10-1276', 'Tata', '130/2-U', '2022-06-11', 'Diesel', 'Naroda', 'Kamod Gam', 62, '2022-12-24'),

(5, 'HJ-23-5632', 'Eicher', '135/1-U', '2023-02-28', 'Petrol', 'Lal Darwaja', 'New Ind Colony', 47, '2024-11-09'),

(6, 'HJ-01-8912', 'Ashok Leyland', '15-U', '2018-04-19', 'Diesel', 'Maninagar', 'Chosar Gam', 44, '2021-07-09'),

(7, 'HJ-01-7014', 'Eicher', '16-D', '2017-07-01', 'Petrol', 'Someshwar Mahadev', 'Vatva Railway Colony', 99, '2018-08-04'),

(8, 'HJ-38-0125', 'Tata', '23-U', '2019-09-23', 'Diesel', 'Maninagar', 'Lambha', 40, '2022-07-09'),

(9, 'HJ-01-6784', 'Eicher', '31-D', '2023-03-26', 'CNG', 'Meghaninagar', 'Sarkhej Gam', 54, '2023-05-10'),

(10, 'HJ-04-4589', 'Ashok Leyland', '18-D', '2016-10-16', 'Petrol', 'Ujala Circle', 'Nigam Society', 51, '2024-01-08'),

(11, 'HJ-02-2638', 'Eicher', '22sh-U', '2022-07-02', 'Diesel', 'Lal Darwaja', 'Indiranagar Vibhag-2', 34, '2023-11-25'),

(12, 'HJ-01-8931', 'Tata', '125/1-U', '2021-06-18', 'CNG', 'Sarangpur', 'Dabhoda', 67, '2022-01-01'),

(13, 'HJ-01-2365', 'Eicher', '123/1-D', '2023-03-12', 'CNG', 'Parshwanath Township', 'Sarangpur', 22, '2023-08-04'),

(14, 'HJ-01-5647', 'Ashok Leyland', '20-U', '2017-05-05', 'Diesel', 'Dharmnagar', 'Hatkeshwar Temple', 20, '2018-07-03'),

(15, 'HJ-01-4328', 'Tata', '67/1sh-D', '2020-09-21', 'Petrol', 'Sattadhar Society', 'Kalupur Terminus', 66, '2023-08-04'),

(16, 'HJ-01-6731', 'Eicher', '42-U', '2022-10-05', 'CNG', 'Nigam Society', 'Shilaj Gam', 81, '2022-04-04'),

(17, 'HJ-01-7323', 'Ashok Leyland', '130/4-D', '2019-05-20', 'Diesel', 'Manmohan Park', 'Nava Vadaj', 72, '2021-02-11'),

(18, 'HJ-01-8902', 'Eicher', '40-D', '2021-07-12', 'Petrol', 'Lapakaman Gam', 'Vaishali Township', 72, '2022-08-01');

# SQL QUERIES

1) Display the records whose Bus routes have 'D' in the last.

SQL File 9\* pmdbms pmdbms SQL File 8\* amts pmdbms amts

Limit to 1000 rows

```

1 • SELECT * FROM bmgmtsys.amts;
2 • SELECT Busroute
3   FROM amts
4  WHERE Busroute LIKE '%D';

```

Result Grid

Busroute
79-D
66/3sh-D
16-D
31-D
18-D
123/1-D
67/1sh-D
130/4-D
40-D

2) Display the list of Buses is of Tata and fuel type is of CNG

SQL File 9\* pmdbms pmdbms SQL File 8\* amts pmdbms amts

Limit to 1000 rows

```

6 • SELECT*
7   FROM amts
8  WHERE BusCO LIKE 'Tata' AND fueltype LIKE 'CNG';
9
10

```

Result Grid

BusId	BusNo	BusCo	Busroute	Dtofissue	fueltype	deptsrc	arrvsrc	stops	maintdue	TotRound
1	HJ-01-7373	Tata	79-D	2020-10-05	CNG	Godrej Garden City	Badrinarayan Society	66	2023-08-04	4
2	HJ-01-3832	Tata	66/3sh-D	2019-12-04	CNG	Moti Bhayan Chokdi	Sarangpur	66	2023-10-24	9
12	HJ-01-8931	Tata	125/1-U	2021-06-18	CNG	Sarangpur	Dabhoda	67	2022-01-01	9
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

3) List the count of departure sources (Sarangpur) using alia group by Bus Number.

SQL File 9\* pmdbms pmdbms SQL File 8\* amts pmdbms amts amts

Limit to 1000 rows

```

10 • SELECT COUNT(deptsrcc) AS TotalBuses, BusNo
11 FROM amts
12 WHERE deptsrcc LIKE 'Sarangpur'
13 GROUP BY BusNo;
14
15

```

Result Grid Filter Rows: Export: Wrap Cell Content:

	TotalBuses	BusNo
1	1	HJ-01-8931

#### 4) Display all the records as per the No of stops using Case function

SQL File 9\* pmdbms pmdbms SQL File 8\* amts pmdbms amts amts

Limit to 1000 rows

```

14 • SELECT BusId, deptsrcc, arrvsrc, stops,
15 CASE
16 WHEN stops >= 60 THEN 'Long Route'
17 ELSE 'Considerable trip'
18 END AS TripStop
19 FROM amts;
20

```

Result Grid Filter Rows: Export: Wrap Cell Content:

	BusId	deptsrcc	arrvsrc	stops	TripStop
1	1	Godrej Garden City	Badrinarayan Society	66	Long Route
2	2	Moti Bhayan Chokdi	Sarangpur	66	Long Route
3	3	Kalupur Terminus	Miroli Gam	55	Considerable trip
4	4	Naroda	Kamod Gam	62	Long Route
5	5	Lal Darwaja	New Ind Colony	47	Considerable trip
6	6	Maninagar	Chosar Gam	44	Considerable trip
7	7	Someshwar Mahadev	Vatva Railway Colony	99	Long Route
8	8	Maninagar	Lambha	40	Considerable trip
9	9	Meghaninagar	Sarkhej Gam	54	Considerable trip
10	10	Ujala Circle	Nigam Society	51	Considerable trip
11	11	Lal Darwaja	Indiranagar Vibhag-2	34	Considerable trip
12	12	Sarangpur	Dabhoda	67	Long Route
13	13	Parshwanath Towns...	Sarangpur	22	Considerable trip
14	14	Dharmnagar	Hatkeshwar Temple	20	Considerable trip
15	15	Sattadhar Society	Kalupur Terminus	66	Long Route

5) Display the maximum round in a day by Bus.

```

21 • SELECT MAX(TotRound) AS Totroundinday
22 FROM amts;
23
24
25

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

	Totroundinday
▶	12

6) Find the Bus with Longest route in characters:

```

23 • SELECT BusNo, Busroute
24 FROM amts
25 WHERE LENGTH(Busroute) = (SELECT MAX(LENGTH(Busroute)) FROM amts);
26

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

	BusNo	Busroute
▶	HJ-01-3832	66/3sh-D
	HJ-01-4328	67/1sh-D

7) Find the Buses with maintenance due soon.

```

27 • SELECT BusNo, maintdue
28 FROM amts
29 WHERE maintdue BETWEEN CURDATE() AND CURDATE() + INTERVAL 25 DAY;
30
31

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

	BusNo	maintdue
▶	HJ-01-3832	2023-10-24

## 8) Find the Buses with earliest date of issue

```

31 • SELECT BusCo, BusNo, Dtofissue
32 FROM amts AS a
33 WHERE Dtofissue = (
34     SELECT MIN(Dtofissue)
35     FROM amts AS b
36     WHERE a.BusCo = b.BusCo
37 );

```

Result Grid

BusCo	BusNo	Dtofissue
Eicher	HJ-01-7014	2017-07-01
Tata	HJ-38-0125	2019-09-23
Ashok Leyland	HJ-04-4589	2016-10-16

## 9) Display the buses with the most frequent departure sources.

```

38 • SELECT BusCo, deptsrcc, COUNT(deptsrcc) AS Frequency
39 FROM amts
40 GROUP BY BusCo, deptsrcc
41 ORDER BY BusCo, Frequency DESC
42 LIMIT 1;

```

Result Grid

BusCo	deptsrcc	Frequency
Ashok Leyland	Kalupur Terminus	1

## 10) Find the Buses with Fuel type of Petrol and Diesel

```
43 • SELECT BusNo, fueltype
44 FROM amts
45 WHERE fueltype IN ('Petrol', 'Diesel');
46
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
BusNo	fueltype		
HJ-02-9845	Petrol		
HJ-10-1276	Diesel		
HJ-23-5632	Petrol		
HJ-01-8912	Diesel		
HJ-01-7014	Petrol		
HJ-38-0125	Diesel		
HJ-04-4589	Petrol		
HJ-02-2638	Diesel		
HJ-01-5647	Diesel		
HJ-01-4328	Petrol		
HJ-01-7323	Diesel		
HJ-01-8902	Petrol		

## 11) Find the Buses with Highest Average stops per Day since Date of Issue

SQL File 9\* pmdbms pmdbms SQL File 8\* pmdbms amts amts

Limit to 1000 rows

```

47 • SELECT BusNo, Dtofissue, stops,
48     AVG(stops) OVER (PARTITION BY BusNo ORDER BY Dtofissue) AS AvgStopsPerDay
49 FROM amts
50 ORDER BY BusNo, Dtofissue;
51

```

Result Grid Filter Rows: Export: Wrap Cell Content:

	BusNo	Dtofissue	stops	AvgStopsPerDay
▶	HJ-01-2365	2023-03-12	22	22.0000
	HJ-01-3832	2019-12-04	66	66.0000
	HJ-01-4328	2020-09-21	66	66.0000
	HJ-01-5647	2017-05-05	20	20.0000
	HJ-01-6731	2022-10-05	81	81.0000
	HJ-01-6784	2023-03-26	54	54.0000
	HJ-01-7014	2017-07-01	99	99.0000
	HJ-01-7323	2019-05-20	72	72.0000
	HJ-01-7373	2020-10-05	66	66.0000
	HJ-01-8902	2021-07-12	72	72.0000
	HJ-01-8912	2018-04-19	44	44.0000
	HJ-01-8931	2021-06-18	67	67.0000
	HJ-02-2638	2022-07-02	34	34.0000
	HJ-02-9845	2021-01-05	55	55.0000
	HJ-04-4589	2016-10-16	51	51.0000
	HJ-10-1276	2022-06-11	62	62.0000
	HJ-23-5632	2023-02-28	47	47.0000

Result 17 x

12) Calculate the total Number of stops for Each Route :



SQL File 9\* pmdbms pmdbms SQL File 8\* pmdbms amts amts

Limit to 1000 rows

```

51 • SELECT Busroute, SUM(stops) AS TotalStops
52 FROM amts
53 GROUP BY Busroute
54 ORDER BY TotalStops DESC;
55

```

Result Grid Filter Rows: Export: Wrap Cell Content:

Busroute	TotalStops
16-D	99
42-U	81
130/4-D	72
40-D	72
125/1-U	67
79-D	66
66/3sh-D	66
67/1sh-D	66
130/2-U	62
117/1-U	55
31-D	54
18-D	51
135/1-U	47
15-U	44
23-U	40
22sh-U	34
123/1-D	22

13) Calculate the Average Maintenance Gap for Buses of Each fuel type:

```

55 • SELECT fueltype, AVG(DATEDIFF(maintdue, Dtofissue)) AS AvgMaintenanceGap
56 FROM amts
57 GROUP BY fueltype;

```

Result Grid Filter Rows: Export: Wrap Cell Content:

fueltype	AvgMaintenanceGap
CNG	442.6667
Petrol	1028.3333
Diesel	660.1667

14) Display the Bus Registration Number of Buses with the same number of stops.

```

57  GROUP BY fueltype;
58  • SELECT BusNo
59  FROM amts
60  WHERE stops = (SELECT stops FROM amts WHERE BusNo = 'HJ-01-7373');
61
--

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	BusNo
▶	HJ-01-7373
	HJ-01-3832
	HJ-01-4328

15) Display the Bus Company Name with the most number of Buses in the Databases.

```

61  • SELECT BusCo, COUNT(*) AS NumBuses
62  FROM amts
63  GROUP BY BusCo
64  ORDER BY NumBuses DESC
65  LIMIT 1;
66
--

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows: |

	BusCo	NumBuses
▶	Eicher	7

16) Calculate and display the total number of stops by each company

```
67 • SELECT BusCo, SUM(stops) AS TotalStops
68 FROM amts
69 GROUP BY BusCo;
70
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	BusCo	TotalStops			
▶	Tata	367			
	Ashok Leyland	242			
	Eicher	409			

17) Sort the rows by departure source in ascending order

```
71 • SELECT BusNo, deptsrc
72 FROM amts
73 ORDER BY deptsrc ASC;
74
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	BusNo	deptsrc			
▶	HJ-01-5647	Dharmnagar			
	HJ-01-7373	Godrej Garden City			
	HJ-02-9845	Kalupur Terminus			
	HJ-23-5632	Lal Darwaja			
	HJ-02-2638	Lal Darwaja			
	HJ-01-8902	Lapakaman Gam			
	HJ-01-8912	Maninagar			
	HJ-38-0125	Maninagar			
	HJ-01-7323	Manmohan Park			
	HJ-01-6784	Meghaninagar			
	HJ-01-3832	Moti Bhayan Chokdi			
	HJ-10-1276	Naroda			
	HJ-01-6731	Nigam Society			
	HJ-01-2365	Parshwanath Tow...			
	HJ-01-8931	Sarangpur			
	HJ-01-4328	Sattadhar Society			
	HJ-01-7014	Someshwar Maha...			

18) Combining Bus Number and Company of the vehicle into one column.

The screenshot shows a SQL IDE with a query editor and a result grid. The query is as follows:

```

74 • SELECT CONCAT(BusNo, '>' ,BusCo) AS BusNo_Co
75 FROM amts;
76
77
78

```

The result grid displays the following data:

BusNo_Co
HJ-01-7373>Tata
HJ-01-3832>Tata
HJ-02-9845>Ashok Leyland
HJ-10-1276>Tata
HJ-23-5632>Eicher
HJ-01-8912>Ashok Leyland
HJ-01-7014>Eicher
HJ-38-0125>Tata
HJ-01-6784>Eicher
HJ-04-4589>Ashok Leyland
HJ-02-2638>Eicher
HJ-01-8931>Tata
HJ-01-2365>Eicher
HJ-01-5647>Ashok Leyland
HJ-01-4328>Tata
HJ-01-6731>Eicher
HJ-01-7323>Ashok Leyland

19) Count the Total number of rows

The screenshot shows a SQL IDE with a query editor and a result grid. The query is as follows:

```

77 • SELECT COUNT(*) AS TotalRows
78 FROM amts;
79

```

The result grid displays the following data:

TotalRows
18

20) Show the Buses which originate from Lal Darwaja.

```
79 • SELECT BusNo, deptsrc
80 FROM amts
81 WHERE deptsrc = 'Lal Darwaja';
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	BusNo	deptsrc			
▶	HJ-23-5632	Lal Darwaja			
	HJ-02-2638	Lal Darwaja			

21) List the Buses which trip greater than or equal to 10

```
82 • SELECT BusNo, TotRound
83 FROM amts
84 WHERE TotRound >= 10;
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	BusNo	TotRound			
▶	HJ-01-8912	10			
	HJ-01-6784	12			
	HJ-01-8902	11			

22) List the Buses with latest maintenance Due Dates:

SQL File 9\* pmdbms pmdbms SQL File 8\* pmdbms amts x amts

Limit to 1000 rows

```

86 • SELECT BusNo, maintdue
87 FROM amts
88 ORDER BY maintdue DESC
89 LIMIT 2;
90

```

Result Grid Filter Rows: Export: Wrap Cell Content: Fetch rows:

BusNo	maintdue
HJ-23-5632	2024-11-09
HJ-04-4589	2024-01-08

23) List the Buses having stops between 20 to 60

```

90 • SELECT*
91 FROM amts
92 WHERE stops BETWEEN 20 AND 60;

```

Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:

BusId	BusNo	BusCo	Busroute	Dtofissue	fueltype	deptsrc	arrvsrc	stops	maintdue	TotRound
3	HJ-02-9845	Ashok Leyland	117/1-U	2021-01-05	Petrol	Kalapur Terminus	Miroli Gam	55	2023-12-20	7
5	HJ-23-5632	Eicher	135/1-U	2023-02-28	Petrol	Lal Darwaja	New Ind Colony	47	2024-11-09	6
6	HJ-01-8912	Ashok Leyland	15-U	2018-04-19	Diesel	Maninagar	Chosar Gam	44	2021-07-09	10
8	HJ-38-0125	Tata	23-U	2019-09-23	Diesel	Maninagar	Lambha	40	2022-07-09	6
9	HJ-01-6784	Eicher	31-D	2023-03-26	CNG	Meghaninagar	Sarkhej Gam	54	2023-05-10	12
10	HJ-04-4589	Ashok Leyland	18-D	2016-10-16	Petrol	Ujala Circle	Nigam Society	51	2024-01-08	5
11	HJ-02-2638	Eicher	22sh-U	2022-07-02	Diesel	Lal Darwaja	Indiranagar Vibhag-2	34	2023-11-25	7
13	HJ-01-2365	Eicher	123/1-D	2023-03-12	CNG	Parshwanath Township	Sarangpur	22	2023-08-04	5
14	HJ-01-5647	Ashok Leyland	20-U	2017-05-05	Diesel	Dharmnagar	Hatkeshwar Temple	20	2018-07-03	6
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

## 24) Display all the records with fuel type of CNG

```

98 • SELECT*
99 FROM amts
100 WHERE fueltype IN('CNG');
101

```

Result Grid											
Filter Rows: Edit: Export/Import: Wrap Cell Content:											
BusId	BusNo	BusCo	Busroute	Dtofissue	fueltype	deptsrc	arrvsrc	stops	maintdue	TotRound	
1	HJ-01-7373	Tata	79-D	2020-10-05	CNG	Godrej Garden City	Badrinarayan Society	66	2023-08-04	4	
2	HJ-01-3832	Tata	66/3sh-D	2019-12-04	CNG	Moti Bhayan Chokdi	Sarangpur	66	2023-10-24	9	
9	HJ-01-6784	Eicher	31-D	2023-03-26	CNG	Meghaninagar	Sarkhej Gam	54	2023-05-10	12	
12	HJ-01-8931	Tata	125/1-U	2021-06-18	CNG	Sarangpur	Dabhoda	67	2022-01-01	9	
13	HJ-01-2365	Eicher	123/1-D	2023-03-12	CNG	Parshwanath Township	Sarangpur	22	2023-08-04	5	
16	HJ-01-6731	Eicher	42-U	2022-10-05	CNG	Nigam Society	Shilaj Gam	81	2022-04-04	3	
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	

## 25) List the Buses with arrival source having 'a' at the second place.

```

94 • SELECT*
95 FROM amts
96 WHERE arrvsrc LIKE '_a%';

```

Result Grid											
Filter Rows: Edit: Export/Import: Wrap Cell Content:											
BusId	BusNo	BusCo	Busroute	Dtofissue	fueltype	deptsrc	arrvsrc	stops	maintdue	TotRound	
1	HJ-01-7373	Tata	79-D	2020-10-05	CNG	Godrej Garden City	Badrinarayan Society	66	2023-08-04	4	
2	HJ-01-3832	Tata	66/3sh-D	2019-12-04	CNG	Moti Bhayan Chokdi	Sarangpur	66	2023-10-24	9	
4	HJ-10-1276	Tata	130/2-U	2022-06-11	Diesel	Naroda	Kamod Gam	62	2022-12-24	3	
7	HJ-01-7014	Eicher	16-D	2017-07-01	Petrol	Someshwar Mahadev	Vatva Railway Colony	99	2018-08-04	4	
8	HJ-38-0125	Tata	23-U	2019-09-23	Diesel	Maninagar	Lambha	40	2022-07-09	6	
9	HJ-01-6784	Eicher	31-D	2023-03-26	CNG	Meghaninagar	Sarkhej Gam	54	2023-05-10	12	
12	HJ-01-8931	Tata	125/1-U	2021-06-18	CNG	Sarangpur	Dabhoda	67	2022-01-01	9	
13	HJ-01-2365	Eicher	123/1-D	2023-03-12	CNG	Parshwanath Township	Sarangpur	22	2023-08-04	5	
14	HJ-01-5647	Ashok Leyland	20-U	2017-05-05	Diesel	Dharmnagar	Hatkeswar Temple	20	2018-07-03	6	
15	HJ-01-4328	Tata	67/1sh-D	2020-09-21	Petrol	Sattadhar Society	Kalupur Terminus	66	2023-08-04	8	
17	HJ-01-7323	Ashok Leyland	130/4-D	2019-05-20	Diesel	Manmohan Park	Nava Vadaj	72	2021-02-11	7	
18	HJ-01-8902	Eicher	40-D	2021-07-12	Petrol	Lapakaman Gam	Vaishali Township	72	2022-08-01	11	
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	