

3.1. OLAP queries

The following is the SQL script for making the report 1, 2, 3 and 4.

REPORT 1

MonCity's cumulative number of booking records of each month for Faculty of IT

	FACULTYID	MONTH_DES	TOTAL_BOOKING	CUM_BOOKING
1	FIT	JANUARY	260	260
2	FIT	FEBRUARY	230	490
3	FIT	MARCH	234	724
4	FIT	APRIL	228	952
5	FIT	MAY	245	1,197
6	FIT	JUNE	252	1,449
7	FIT	JULY	249	1,698
8	FIT	AUGUST	245	1,943
9	FIT	SEPTEMBER	274	2,217
10	FIT	OCTOBER	256	2,473
11	FIT	NOVEMBER	251	2,724
12	FIT	DECEMBER	251	2,975

```
SELECT b.facultyid, m.Month_Des, SUM(b.num_of_booking) as Total_Booking,
TO_CHAR (SUM(SUM(num_of_booking)) OVER
(ORDER BY b.facultyid, to_date(m.Month_Des, 'Month')
ROWS UNBOUNDED PRECEDING),
'9,999,999,999') AS CUM_booking
FROM bookingfact_V1 b, monthdim m
WHERE b.facultyid = 'FIT' and b.monthid = m.monthid
GROUP BY b.facultyid, m.Month_Des
ORDER BY MIN(m.monthid);
```

REPORT 2

MonCity's maintenance report

	TEAMID	CARBODYTYPE	TOTAL_NUMBER_OF_MAINTENANCE	TOTAL_MAINTENANCE_COST
1	All Team	All Car Body Types	399	125300
2	All Team	Bus	136	44900
3	All Team	Mini Bus	113	34000
4	All Team	People Mover	150	46400
5	T002	All Car Body Types	197	62700
6	T002	Bus	58	18400
7	T002	Mini Bus	62	19300
8	T002	People Mover	77	25000
9	T003	All Car Body Types	202	62600
10	T003	Bus	78	26500
11	T003	Mini Bus	51	14700
12	T003	People Mover	73	21400

```

SELECT
DECODE (GROUPING(teamid), 1, 'All Team', teamid) as teamid,
DECODE (GROUPING(carbodytype), 1, 'All Car Body Types', carbodytype) as carbodytype,
sum(num_of_main_record) as total_number_of_maintenance,
sum(main_cost) as total_maintenance_cost
FROM MaintenanceFact_V1
WHERE TEAMID = 'T002' OR TEAMID ='T003'
GROUP BY CUBE(teamid, carbodytype);

```

REPORT 3

MonCity's rank analysis for the number of accidents

	ERRORCODE	REGISTRATIONNO	CARBODYTYPE	TOTAL_NUMBER_OF_ACCIDENTS	ACCIDENT_RANK
1	Error001	Car01	Bus	13	1
2	Error001	Car04	Bus	12	2
3	Error001	Car12	Mini Bus	12	2
4	Error001	Car19	Mini Bus	12	2
5	Error001	Car08	Bus	11	3
6	Error001	Car20	Mini Bus	11	3
7	Error002	Car22	People Mover	45	1
8	Error002	Car27	People Mover	42	2
9	Error002	Car30	People Mover	39	3
10	Error002	Car23	People Mover	39	3
11	Error003	Car14	Mini Bus	12	1
12	Error003	Car06	Bus	12	1
13	Error003	Car01	Bus	11	2
14	Error003	Car10	Bus	11	2
15	Error003	Car12	Mini Bus	10	3
16	Error003	Car09	Bus	10	3
17	Error004	Car12	Mini Bus	13	1

```

WITH report_three as(
Select af.ERRORCODE, bridge.REGISTRATIONNO,
bridge.CARBODYTYPE, sum(af.NUM_OF_ACCIDENT) AS Total_number_of_accidents,
DENSE_RANK() OVER (
PARTITION BY ERRORCODE

```

```

ORDER BY sum(af.NUM_OF_ACCIDENT) DESC
) AS ACCIDENT_RANK
FROM accidentfact_v1 af,
(
select ca.registrationno as registrationno , carbodytype , ca.accidentid as accidentid
from cardim c , CarAccidentDIM ca, accidentinfodim_V1 ai
where c.registrationno = ca.registrationno AND ai.accidentid = ca.accidentid
) bridge
where af.accidentid = bridge.accidentid
GROUP BY ERRORCODE, REGISTRATIONNO, CARBODYTYPE
) SELECT *
FROM report_three
WHERE accident_rank in (1,2,3);

```

REPORT 4

MonCity's booking report

	CARBODYTYPE	AGE_GROUP	FACULTY_ID	TOTAL_BOOKING
1	People Mover	All Age groups	All faculties	3396
2	People Mover	All Age groups	ART	453
3	People Mover	All Age groups	BUS	314
4	People Mover	All Age groups	ENG	841
5	People Mover	All Age groups	FIT	1009
6	People Mover	All Age groups	SCI	779
7	People Mover	G1	All faculties	1380
8	People Mover	G1	ART	169
9	People Mover	G1	BUS	121
10	People Mover	G1	ENG	382
11	People Mover	G1	FIT	390
12	People Mover	G1	SCI	318
13	People Mover	G2	All faculties	1722
14	People Mover	G2	ART	284
15	People Mover	G2	BUS	193
16	People Mover	G2	ENG	429
17	People Mover	G2	FIT	497

```

SELECT carbodytype,
DECODE (GROUPING(ageid), 1, 'All Age groups', ageid) as age_group,
DECODE (GROUPING(facultyid), 1, 'All faculties', facultyid) as faculty_id,
SUM(num_of_booking) as total_booking
FROM BookingFACT_V1 bf
WHERE carbodytype = 'People Mover'
GROUP BY carbodytype, CUBE(ageid, facultyid);

```