CREDIT CARD TRANSACTION SQL PROJECT

Yatharth Hadke

Top 5 cities with highest spends and their percentage contribution of total credit card spends

```sql
-- top 5 cities with highest spends and their percentage contribution of total credit card spends

with N as (select City , sum(Amount_spend) as Amount_spend1
from Credit_card_transac
Group by City)

,M as (select sum(Amount_spend1) as Total_spend_amount   -- 4074833373
from N )

select top 5 city ,   Amount_spend1 ,
round(100.0* Amount_spend1/4074833373.0,2) as percentage_contribution_by_city
from N
order by Amount_spend1 desc
```

Results | Messages

city	Amount_spend1	percentage_contribution_by_city
Shahbad, India	1095436	0.030000
Vita, India	276648	0.010000
Arambagh, India	1447212	0.040000
Sitapur, India	1430928	0.040000
Revelganj, India	1329656	0.030000

Find highest spend month and amount spent in that month for each card type

```sql
--  write a query to print highest spend month and amount spent in that month for each card type

with M as (select datepart(year, Transac_Date) as year_ , datepart(MONTH, Transac_Date) as month_ ,
Card_Type , sum(Amount_spend) as amt
from Credit_card_transac
group by Card_Type , datepart(year, Transac_Date),datepart(MONTH, Transac_Date)
)

,k as (select year_ , month_ ,Card_type ,
Max(amt) over(partition by Card_type order by amt desc) highest_amt_spend_mnt,
ROW_NUMBER() over(partition by Card_type order by amt desc) as rn
from M)

select year_ , month_ ,Card_type ,highest_amt_spend_mnt
from K
where rn = 1
```

Results | Messages

year_	month_	Card_type	highest_amt_spend_mnt
2015	1	Gold	55455064
2014	8	Platinum	57936507
2013	12	Signature	58799522
2015	3	Silver	59723549

write a query to find city which had lowest percentage spend for gold card type

```sql
-- . write a query to find city which had lowest percentage spend for gold card type

with M as (select City , count(City) as cnt_gold_card, sum(Amount_spend) as amt_spend_by_gold_crd
from Credit_card_transac
where Card_Type = 'Gold'
group by City
)
select *
,(select sum(amt_spend_by_gold_crd)
from M) as Total_spend_by_gld_card,
amt_spend_by_gold_crd/(select sum(amt_spend_by_gold_crd) as per_spend
from M) as per_spend_
from M
order by amt_spend_by_gold_crd/(select sum(amt_spend_by_gold_crd)from M) asc

-- write a query to find percentage contribution of spends by females for each expense type
```

Results | Messages

City	cnt_gold_card	amt_spend_by_gold_crd	Total_spend_by_gld_card	per_spend_
Dhamtari, India	1	1416	984539536	0.000001
Bhiwandi, India	1	2186	984539536	0.000002
Solan, India	1	2910	984539536	0.000002
Lalitpur, India	1	3482	984539536	0.000003
Ranchi, India	1	3547	984539536	0.000003
Suar, India	1	3328	984539536	0.000003
Brahmapur, India	1	3184	984539536	0.000003
Uravakonda, India	1	4131	984539536	0.000004
Bhadrachalam, India	1	4544	984539536	0.000004

Query executed successfully. 00:00:00 766 rows

find percentage contribution of spends by females for each expense type

```sql
-- write a query to find percentage contribution of spends by females for each expense type

select * from Credit_card_transac

select Gender ,Exp_Type , sum(amount_spend) as amt_spend_by_females
from Credit_card_transac
where Gender = 'F'
group by Gender , Exp_Type
order by amt_spend_by_females desc
```

Results | Messages

Gender	Exp_Type	amt_spend_by_females
F	Bills	580035469
F	Food	452817279
F	Fuel	392282421
F	Grocery	365646998
F	Entertainment	358663333
F	Travel	55865530

which card and expense type combination saw highest month over month growth in Jan-2014

```sql
-- which card and expense type combination saw highest month over month growth in Jan-2014
with M as (select datepart(year,Transac_Date) as yy ,datepart(MONTH,Transac_Date) as mm,
Card_Type , sum(Amount_spend) as amt
from Credit_card_transac
where datepart(year,Transac_Date) = 2014 and datepart(MONTH,Transac_Date) = 1
Group by datepart(year,Transac_Date) , datepart(MONTH,Transac_Date) , Card_Type
union all
select datepart(year,Transac_Date) as yy ,datepart(MONTH,Transac_Date) as mm,
Card_Type , sum(Amount_spend) as amt
from Credit_card_transac
where datepart(year,Transac_Date) = 2013 and datepart(MONTH,Transac_Date) = 12
Group by datepart(year,Transac_Date) , datepart(MONTH,Transac_Date) , Card_Type
 )

select * ,
round(100.0*(amt - lag(amt,1) over(partition by Card_Type order by Card_Type , mm desc))/lag(amt,1) over(partition by Card_Type order b
from M
Order by Card_Type , mm desc
```

50 %

Results | Messages

	yy	mm	Card_Type	amt	per_growth
1	2013	12	Gold	47977692	NULL
2	2014	1	Gold	54691140	13.990000
3	2013	12	Platinum	52091648	NULL
4	2014	1	Platinum	54934191	5.460000
5	2013	12	Signature	58799522	NULL
6	2014	1	Signature	46144698	-21.520000
7	2013	12	Silver	55398967	NULL
8	2014	1	Silver	51880953	-6.350000

during weekends which city has highest total spend to total no of transactions ratio

```sql
-- during weekends which city has highest total spend to total no of transcations ratio

with M as (select datepart(year,Transac_Date) as yy  , datepart(WEEKDAY,Transac_Date) as ww , datename(weekday, Transac_Date) as name1
, City , sum(Amount_spend)/count(*) as highest_total_spend_to_total_no_of_transcations_ratio
from Credit_card_transac
group by City , datepart(year,Transac_Date) , datepart(WEEKDAY,Transac_Date) , datename(weekday, Transac_Date)
)
select City , yy , ww , name1,
sum(highest_total_spend_to_total_no_of_transcations_ratio) as highest_total_spend_to_total_no_of_transcations_ratio_
from M
where ww = 1 or ww = 7
group by City ,  yy , ww , name1
order by highest_total_spend_to_total_no_of_transcations_ratio_ desc
```

Results | Messages

City	yy	ww	name1	highest_total_spend_to_total_no_of_transcations_ratio_
Raghogarh-Vijaypur, India	2014	7	Saturday	299980.000000
Sonepur, India	2013	7	Saturday	299905.000000
Noorpur, India	2014	1	Sunday	299613.000000
Lanka, India	2014	7	Saturday	298960.000000
Tekkalakote, India	2014	7	Saturday	298938.000000
Sitamarhi, India	2013	7	Saturday	298693.000000
Shirpur-Warwade, India	2013	1	Sunday	298572.000000
Zunheboto, India	2014	7	Saturday	298567.000000
Puranpur, India	2014	1	Sunday	298518.000000
Yawal, India	2014	7	Saturday	298469.000000
Margao, India	2015	7	Saturday	297927.000000
Tura, India	2014	1	Sunday	297858.000000
Nagaur, India	2014	7	Saturday	297254.000000
Phulabani, India	2014	7	Saturday	297048.000000

Query executed successfully. 00:00:00 | 1,480 rows

which city took least number of days to reach its 500th transaction after the first transaction in that city

```sql
-- which city took least number of days to reach its 500th transaction after the first transaction in that c

with M as (select * , ROW_NUMBER() over(partition by City order by Transac_Date) as rn
from Credit_card_transac)
, N as (select *
from M
where rn = 500)
,T as (select *
from M
where rn = 1
)
select top 1 T.city , T.Transac_Date , N.Transac_Date , Datediff(day,T.Transac_Date , N.Transac_Date) as day
from N
inner join T
on N.City = T.City
order by Datediff(day,T.Transac_Date , N.Transac_Date) asc
```

0 %

Results | Messages

city	Transac_Date	Transac_Date	day_diff
Bengaluru, India	2013-10-04	2013-12-24	81