***SQL case study 1***

**1. Display the number of states present in the LocationTable.**

**Select count (distinct state) as ‘number of states’**

**From locationtable;**

**2. How many products are of regular type?**

**Select count (\*) as ‘regular products’**

**From producttable**

**Where type = ‘regular’;**

**3. How much spending has been done on marketing of product ID 1?**

**Select sum(market) as ‘market\_spending’**

**From facttable**

**Where productid =1;**

**4. What is the minimum sales of a product?**

**Select min(sales) as min\_sales**

**From facttable;**

**5. Display the max Cost of Good Sold (COGS).**

**Select max(cogs) as max\_cogs**

**From facttable;**

**6. Display the details of the product where product type is coffee.**

**Select \* from producttable**

**Where type=’coffee’;**

**7. Display the details where total expenses are greater than 40.**

**Select \* fromm facttable**

**Where “total expenses” > 40;**

**8. What is the average sales in area code 719?**

**Select avg(sales) as avg\_sales**

**From facttable**

**Where area code = 719;**

**9. Find out the total profit generated by Colorado state.**

**Select sum(f.profit) as total\_profit**

**From facttable f**

**Inner join locationtable l on f.areacode where l.state= ‘colorado’;**

**10. Display the average inventory for each product ID.**

**Select productid, avg(inventory) as avg\_inventory**

**From facttable group by productid;**

**11. Display state in a sequential order in a Location Table.**

**Select state from locationtable**

**Order by state;**

**12. Display the average budget of the Product where the average budget margin should be greater than 100.**

**Select avg(budget) as avg\_budget from facttable**

**Where productid in (select productid from facttable group by productid having avg(bugetmargin)> 100);**

**13. What is the total sales done on date 2010-01-01?**

**Select aum(sales) as total\_sales**

**From facttable**

**Where date =’2010-01-01’;**

**14. Display the average total expense of each product ID on an individual date.**

**Select productid, date, avg(Total Expenses) as avg\_expenses**

**From facttable group by productid,date**

**Order by productid,date;**

**15. Display the table with the following attributes such as date, productID, product\_type, product, sales, profit, state, area\_code.**

**Select f.date, f.productid, p.type as product\_type, p.product, f.sales, f.profit, l.sales, l.area code**

**From facttable f**

**inner join producttable p**

**on f.productid= p.productid**

**inner join locationtable l**

**On f.areacode= l.areacode;**

**16. Display the rank without any gap to show the sales wise rank.**

**Select f.date,f.productid,f.sales,f.profit, p.product, l.state,l.area code ,**

**dense\_rank() over (order by f.sales ) as salesrank**

**From facttable f inner join producttable p**

**On f.productid = p.productid**

**Inner join locationtable l on**

**F.area code =l.area code**

**Order by f.sales ;**

**17. Find the state wise profit and sales.**

**Select state, sum(profit) as total\_profit, sum (sales) as total\_sales**

**From facttable**

**Group by state;**

**18. Find the state wise profit and sales along with the productname.**

**Select l.sate, p.product, sum (f.profit) as total\_profit, sum(f.sales) as total\_sales**

**From facttable f inner join producttable p**

**On f.productid =p.productid**

**Inner join locationtable l on**

**F.areacode =l.area code**

**Group by l.state, p.product;**

**19. If there is an increase in sales of 5%, calculate the increasedsales.**

**Select sales \* 1.05 as incresed\_sales**

**From facttable;**

**20. Find the maximum profit along with the product ID and producttype.**

**Select f.productid, p.type as product\_type, max(f.profit) as max\_profit**

**From facttable f inner join producttable**

**On f.productid = p.productid**

**Group by f.productid, p.type;**

**21. Create a stored procedure to fetch the result according to the product typefrom Product Table.**

**Create procedure fetchproductsbytype @producttype nvarchar(255)**

**as begin**

**Select \* from producttable where**

**Type = @producttype;**

**End;**

**Exec fetchproductsbytype @producttype =’yourproducttypehere’ ;**

**22. Write a query by creating a condition in which if the total expenses is lessthan60 then it is a profit or else loss.**

**Select \*,**

**case**

**When ‘total expenses’ < 60**

**Then ‘profit’ else ‘lose’**

**End as**

**Profitorloss**

**From facttable;**

**23. Give the total weekly sales value with the date and product IDdetails. Useroll-up to pull the data in hierarchical order.**

**Select datepart(week, f.date) as weeknumber, f.date, f.productid,**

**sum(f.sales) as weeklysales from facttable f**

**Group by datepart (week, f.date), f.date, f.productid with rollup**

**Order by weeknumber, f.productid;**

**24. Apply union and intersection operator on the tables which consist of attribute area code.**

**Select area code from table1**

**Union**

**select area code from table 2 ;**

**Select area code from table1**

**Insection**

**select area code from table 2 ;**

**25. Create a user-defined function for the product table to fetch a particular product type based upon the user’s preference.**

**Create function prefreedproduct (@userpreference nvarchar(255))**

**Returns**

**Table as**

**return**

**(select \* from producttable**

**Where type =@userprefrence);**

**Select \* dbo.prfreedproduct (‘your preferred product type’);**

**26. Change the product type from coffee to tea where product IDis 1 andundoit.**

**Update producttable set type =’tea’ where productid=1;**

**Update producttable set type =’coffee’ where productid=1;**

**27. Display the date, product ID and sales where total expenses are between 100 to 200.**

**Select date, productid, sales from facttable**

**where ‘total expenses’**

**between 100 and 200**

**28. Delete the records in the Product Table for regular type.**

**Delete from productable**

**Where type =’regular’;**

**29. Display the ASCII value of the fifth character from the columnProduct.**

**Select ascii(substring(product,5,1)) as asciivalue**

**From producttable;**