MS SQL Server Assignment

1) Create the following tables:

a. **Table Name :** Client_master

Description: Use to store information about client

Column Name	Data Type	Size	Attributes
client_no	varchar	6	Primary key/first letter must start with 'C'
name	varchar	20	not null
city	varchar	15	
state	varchar	15	
pincode	numeric	6	
bal_due	numeric	10,2	

b. Table Name: product_master

Description: Use it store information about products.

Column Name	Data Type	Size	Attributes
product_no	varchar	6	Primary key/first letter must start with 'P'
description	varchar	50	not null
profit_percent	numeric	3,2	not null
unit_measure	varchar	10	not null
qty_on_hand	Numeric	8	null
record_lvl	numeric	8	not null
sell_price	numeric	8,2	not null, cannot be 0
cost_price	numeric	8,2	not null, cannot be 0

c. **Table Name :** salesman_master

Description: Use to store information about salesman working in the company

Column Name	Data Type	Size	Attributes
salesman_no	varchar	6	Primary key/first letter must start with 'S'
salesman_name	varchar	20	not null
Address1	varchar	30	not null
Address2	varchar	30	
city	varchar	20	
pincode	varchar	6	
state	varchar	20	
sal_amt	numeric	8,2	not null, cannot be 0
tgt_to_get	numeric	6,2	not null, cannot be 0
ytd_sales	numeric	6,2	not null
remarks	varchar	60	

d. Table Name : sales_order

Description: Use to store information about order

Column Name	Data Type	Size	Attributes
s_order_no	varchar	6	Primary key/first letter must start with 'O'
s_order_date	date		
client_no	varchar	6	Foreign key references client_no of client_master table
dely_addr	varchar	25	
salesman_no	varchar	6	Foreign key references salesman_no of salesman_master table
dely_type	char	1	delivery :part (P) / full (F), Default 'F'
billed_yn	char	1	delivery :part (Y) / full (N), Default 'N'
dely_date	date		
order_status	varchar	10	values ('in process', 'Fulfilled',

			'BackOrder', 'Canceled')

e. **Table Name:** sales_order_details
Description: Use to store information about products ordered.

Column Name	Data Type	Size	Attributes
s_order_no	varchar	6	Foreign key references s_order_no of sales_order table
product_no	varchar	6	Foreign key references product_no of product_master table
qty_ordered	numeric	8	
qty_disp	numeric	8	
product_rate	numeric	10,2	

f. **Table Name:** Challan_Header
Description: Use to store information about challans made for the orders.

Column Name	Data Type	Size	Attributes
challan_no	varchar	6	Primary Key/First Two letters must start with 'CH'
s_order_no	varchar	6	Foreign Key references s_order_no of sales_order table
challan_date	date		not null
billed_yn	char	1	values('Y','N')Default 'N'

g. **Table Name:** Challan_details
Description: use to store information about challan details

Column Name	Data Type	Size	Attributes

challan_no	varchar	6	Primary Key/Foreign Key references challan_no of challan_header table.
product_no	varchar	6	Primary Key/Foreign Key references product_no of product_master table
qty_disp	numeric	4,2	not null

2. Insert the following data into their respective tables using the SQL insert statement:

1. Data for client_master table

Client No	Name	City	Pin Code	State	Bal_Due
C00001	Ivan Bayross	Bombay	400054	Maharashtra	15000
C00002	Vandana Saitwal	Madras	780001	Tamil Nadu	0
C00003	Pramada Jaguste	Bombay	400057	Maharashtra	5000
C00004	Basu Navindgi	Bombay	400056	Maharashtra	0
C00005	Ravi Sreedharan	Delhi	100001	Delhi	2000
C00006	Rukmini	Bombay	400050	Maharashtra	0

2. Data for Product_master Table:

Product No	Description	Profit %	UOM	qty_on_hand	Reorder lel	Sell Price	Cost Price
P00001	1.44 Floppies	5	Piece	100	20	525	500
P03453	Monitors	6	Piece	10	3	12000	11280
P06734	Mouse	5	Piece	20	5	1050	1000
P07865	1.22 Floppies	5	Piece	100	20	525	500
P07868	Keyboards	2	Piece	10	3	3150	3050

P07885	CD Drive	2.5	Piece	10	3	5250	5100
P07965	540 HDD	4	Piece	10	3	8400	8000
P07975	1.44 Drive	5	Piece	10	3	1050	1000
P08865	1.22 Drive	5	Piece	2	3	1050	1000

3. Data for Salesman_master table:

3. Data for salesman_master table:

Salesman_ no	Salesman_ name	Address1	Address2	City	Pin code	State	sal_amt	Tgt_to Get	Ytd sales	Remarks
S00001	Kiran	A/14	Worli	Bombay	400002	MAH	3000	100	50	Good
S00002	Manish	65	Nariman	Bombay	400001	MAH	3000	200	100	Good
S00003	Ravi	P-7	Bandra	Bombay	400032	MAH	3000	200	100	Good
S00004	Ashish	A/5	Juhu	Bombay	400044	MAH	3500	200	150	Good

4. Data for sales_order table :

S_order_no	S_order_date	Client No	Dely Type	Bill Yn	salesman no	Dely Date	Order Status
O19001	12-Jan-1996	C00001	F	N	S00001	20-Jan-1996	IP
O19002	25-Jan-1996	C00002	P	N	S00002	27-Jan-	C

						1996	
O46865	18-Feb-1996	C00003	F	Y	S00003	20-Feb-1996	F
O19003	03-Apr-1996	C00001	F	Y	S00001	07-Apr-1996	F
O46866	20-May-1996	C00004	P	N	S00002	22-May-1996	C
O10008	24-May-1996	C00005	F	N	S00004	26-May-1996	IP

5. Data for sales_order_details table:

s_order_no	product_no	Qty ordered	qty_Disp	Product rate
O19001	P00001	4	4	525
O19001	P07965	2	1	8400
O19001	P07885	2	1	5250
O19002	P00001	10	0	525
O46865	P07868	3	3	3150
O46865	P07885	3	1	5250
O46865	P00001	10	10	525
O46865	P03453	4	4	1050
O19003	P03453	2	2	1050
O19003	P06734	1	1	12000
O46866	P07965	1	0	8400
O46866	P07975	1	0	1050
O10008	P00001	10	5	525
O10008	P07975	5	3	1050

6. Data for challan_header table:

Challan No	S Order No	Challan Date	Billed
CH9001	O19001	12-Dec-1995	Y
CH6865	O46865	12-Nov-1995	Y
CH3965	O10008	12-Oct-1995	Y

7. Data for challan_details table:

Challan No	Product No	Qty Disp
CH9001	P00001	4
CH9001	P07965	1
CH9001	P07885	1
CH6865	P07868	3
CH6865	P03453	4
CH6865	P00001	10
CH3965	P00001	5
CH3965	P07975	2

Hands-on Exercise

SELF REVIEW SQL CONSTRUCTS FOR PRACTICE

1. Single table retrieval

1) Find out the names of all the clients.
2) Print the entire client_master table.
3) Retrieve the list of names and the cities of all the clients
4) List the various products available from the product_master table.
5) Find the names of all clients having ‘a’ as the second letter in their table.
6) Find the names of all clients who stay in a city whose second letter is ‘a’
7) Find out the clients who stay in a city ‘Bombay’ or city ‘Delhi’ or city ‘Madras’.
8) List all the clients who are located in Bombay.
9) Print the list of clients whose bal_due are greater than value 10000
10) Print the information from sales_order table of orders placed in the month of January.
11) Display the order information for client_no ‘C00001’ and ‘C00002’

12) Find the products with description as '1.44 Drive' and '1.22 Drive'
13) Find the products whose selling price is greater than 2000 and less than or equal to 5000
14) Find the products whose selling price is more than 1500 and also find the new selling price as original selling price * 15
15) Rename the new column in the above query as new_price
16) Find the products whose cost price is less than 1500
17) List the products in sorted order of their description.
18) Calculate the square root the price of each product.
19) Divide the cost of product '540 HDD' by difference between its price and 100
20) List the names, city and state of clients not in the state of Maharashtra
21) List the product_no, description, sell_price of products whose description begin with letter 'M'
22) List all the orders that were canceled in the month of May.

2. Set Functions and Concatenation :

23) Count the total numeric of orders.
24) Calculate the average price of all the products.
25) Calculate the minimum price of products.
26) Determine the maximum and minimum product prices. Rename the title as max_price and min_price respectively.
27) Count the numeric of products having price greater than or equal to 1500.
28) Find all the products whose qty_on_hand is less than reorder level.
29) Print the information of client_master, product_master, sales_order table in the following formate for all the records {cust_name} has placed order {order_no} on {s_order_date}.

3. Having and Group by:

30) Print the description and total qty sold for each product.

31) Find the value of each product sold.

32) Calculate the average qty sold for each client that has a maximum order value of 15000.00

33) Find out the total sales amount receivable for the month of jan. it will be the sum total of all the billed orders for the month.

34) Print the information of product_master, order_detail table in the following format for all the records
{Description} worth Rs. {Total sales for the product} was sold.

35) Print the information of product_master, order_detail table in the following format for all the records
{Description} worth Rs. {Total sales for the product} was produced in the month of {s_order_date} in month formate.

4. Joins and Correlation :

36) Find out the products which has been sold to 'Ivan Bayross'

37) Find out the products and their quantities that will have to deliver in the current month.

38) Find the product_no and description of moving products.

39) Find the names of clients who have purchased 'CD Drive'

40) List the product_no and s_order_no of customers having qty_ordered less than 5 from the order details table for the product '1.44 floppies'

41) Find the products and their quantities for the orders placed by 'Vandana Saitwal' and 'Ivan Bayross'

42) Find the products and their quantities for the orders placed by client_no 'C00001' and 'C00002'

5. Nested Queries :

43) Find the product_no and description of non-moving products.

44) Find the customer name, address1, address2, city and pin code for the client who has placed order no 'O19001'

45) Find the client names who have placed orders before the month of May, 1996

46) Find out if product '1.44 Drive' is ordered by client and print the client_no, name to whom it is was sold.

47) Find the names of clients who have placed orders worth Rs. 10000 or more.

6. Queries using Date:

48) Display the order numeric and day on which clients placed their order.

49) Display the month (in alphabets) and date when the order must deliver.

50) Display the s_order_date in the format. E.g. 12-February-1996

51) Find the date, 15 days after today's date.

52) Find the numeric of days elapsed between today's date and the delivery date of the orders placed by the clients.

7. Misc (Rank, Case)

53. In sales ordered detail table as pet the quantity ordered highest to lowest assign the rank. Don't miss any numeric

54. Display product master record along with record no

55. For sales ordered detail table assign row numeric for each s_order_no.

56. Print s_order_no, qty ordered, qty disp, and difference. Also display message if difference is 0 print all qty dispatched , if difference is <=5 few qty left to dispatched, else display difference is high

57. List salesman master detail along with rank as per the sal_amt

8. Table Updations:

58) Change the s_order_date of client_no 'C00001' to 24/07/96.

59) Change the selling price of '1.44 Floppy Drive' to Rs. 1150.00

60) Delete the records with order numeric 'O19001' from the order table.

61) Delete all the records having delivery date before 10th July'96

62) Change the city of client_no 'C00005' to 'Bombay'.

63) Change the delivery date of order numeric 'O10008" to 16/08/96

64) Change the bal_due of client_no ‘C00001’ to 1000

65) Change the cost price of ‘1.22 Floppy Drive’ to Rs. 950.00.

9. Views

66. Create a read only view which will display Client name, city and balance due
67. Create a read only view which will display salesman name, city, sales amount, target to get
68. Create a view which display client name, salesman name s_oreder_no and order status
69. From the sales order details table display product wise quantity ordered
70. Create view which display all billed challan detail

10. Stored Procedure (for all the procedure handle required error)

71. Write a procedure which takes client name and display a client record from client master table.

72. Take city name as parameter and display all client name and the balance due and at the end total balance due from the city (total of balance_due)
73. Write a procedure which takes product description as a parameter and display the details
74. Write a procedure which will take quantify on hand as parameter and display all products greater then the value
75. Write a procedure which will display details for all “Floppies” product
76. Write a procedure which takes client name and display S_order_date, Order Status.
77. Write a procedure which print salesman name, whose Ytd sales > 100
78. Take a two S_order_date parameters and display all sales detail between two dates.
79. Take bill_y/n as a parameter and list all order details like S_order_no, S_order_date, salesman name, order status

80. Takes S_order_no as a parameter and display product description and salesman name
81. Take client name as parameter and display S_order_no, S_order_date, salesman name, order status, product description, qty ordered, product rate and total (qty ordered * product rate)
82. List order details (order no, client name, salesman name, product description) where qty ordered is >= 10
83. Take challan no and print details (order no, challan date, client name, salesman name, order date, order status)
84. Take challan date month as a parameter and display challan detail like s_order_no, s_order_date, bill y/n, delay_date, order status
85. Take product no as parameter and print all the orders for the products like s_order_no, client name, salesman name
86. Write a procedure which print order no and order date for the salesman kiran
87. Write a procedure which takes order no as parameter and return in out parameter total qty ordered and total qty dispatched for the order (table sales_order)
88. Write a procedure which display product description cost price, sales price and profit amount (cost price – sales price). At the end display total profit amount
89. Display all the product detail where reorder level is below 5
90. Take sales order no check if qty dispatched is less than qty ordered than display product description , qty ordered, qty dispatched and the difference else print the message all qty dispatched.

11. Functions

91. Take the city name and return total no of customer count in the city
92. Take salesman name and return total order count
93. Write a function which takes salesman name and return target to get.
94. Write a function which will return total target to get by all the salesman

95. Take order status as a parameter and return total order count for the order status
96. Take year and month as a parameter to a function and return order count
97. Take s_order_no as a parameter to a function and return total bill amount
98. Return total salesman count in the city Mumbai
99. Take state name and return total client in the state
100. Take city name as parameter and return total amount of balance due for the city

Observation

Before deleting any table create the copy of the table
How to create copy of an existing table is your assignment.

1) Add the following record into the challan_details table and check if the records get added or not. Note the observation for each of them

CH9001	P00001	5
P785341	P06734	9
P00001	CH9001	1

2) Drop the table product_master. Can the product_master be dropped. If not, Note the error message.
3) Drop the table challan_details, challan_header and product_master in specified sequence.
4) What conclusions can you draw, performing the above tasks?