

**Question 1a**

Display the Sales Order Number, Product Name, Product Sub Category Name, Product Category Name, Unit Price, Unit Price Discount, Line Total. Display the result in the Alphabetical Order of Products.

**Result Set****Total Rows: 120364**

SalesOrder ID	Product_Name	Product_SubCategory_Name	Product_Category_Name	UnitPrice	UnitPriceDiscount	LineTotal
51488	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
51903	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
51970	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
52372	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
52417	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
52558	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
52754	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
52831	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
55402	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000
55900	All-Purpose Bike Stand	Bike Stands	Accessories	159.00	0.00	159.000000

**Question 1b**

Display the ProductID, Product, ProductSubCategoryID, ProductSubCategory, ProductCategoryID and Product Category. Display the result in the alphabetical order of Products. Explain why do you see NULLs in all columns except ProductID and Product.

**Result Set****Total Rows: 502**

ProductID	Product	ProductSubcategoryID	Product SubCategory	ProductCategoryID	Product Category
1	Adjustable Race	NULL	NULL	NULL	NULL
879	All-Purpose Bike Stand	27	Bike Stands	4	Accessories
712	AWC Logo Cap	19	Caps	3	Clothing
3	BB Ball Bearing	NULL	NULL	NULL	NULL
2	Bearing Ball	NULL	NULL	NULL	NULL
877	Bike Wash - Dissolver	29	Cleaners	4	Accessories
316	Blade	NULL	NULL	NULL	NULL
843	Cable Lock	34	Locks	4	Accessories
952	Chain	7	Chains	2	Components
324	Chain Stays	NULL	NULL	NULL	NULL

## Question 2

Display Product Category, Order Date, SubTotal in the month of December 2003. Order the result set in the ascending order of Order Date.

Result Set Total Rows: 94

Product Category	OrderDate	SubTotal
Clothing	2003-12-01 00:00:00.000	23719708.7268
Accessories	2003-12-01 00:00:00.000	12921201.6914
Components	2003-12-01 00:00:00.000	49173458.9365
Bikes	2003-12-01 00:00:00.000	54373323.6538
Bikes	2003-12-02 00:00:00.000	46274.21
Accessories	2003-12-02 00:00:00.000	70687.26
Clothing	2003-12-02 00:00:00.000	17721.94
Accessories	2003-12-03 00:00:00.000	107109.61
Clothing	2003-12-03 00:00:00.000	34441.28
Bikes	2003-12-03 00:00:00.000	59979.21

## Question 3

Display the Sales Order ID, Sale Reason, Reason Type, ShipDate, SubTotal, Tax Amount, Freight and Total Due for those orders which do not have Sale Reason **Quality** and **Manufacturer**.

Result Set Total Rows: 24350

SalesOrderID	Sale Reason	ReasonType	ShipDate	SubTotal	TaxAmt	Freight	TotalDue
51176	Price	Other	2003-07-08 00:00:00.000	2452.34	196.1872	61.3085	2709.8357
51178	Price	Other	2003-07-08 00:00:00.000	2334.97	186.7976	58.3743	2580.1419
51179	Price	Other	2003-07-08 00:00:00.000	2638.94	211.1152	65.9735	2916.0287
51180	Price	Other	2003-07-08 00:00:00.000	2542.31	203.3848	63.5578	2809.2526
51181	Price	Other	2003-07-08 00:00:00.000	2514.93	201.1944	62.8733	2778.9977
51182	Price	Other	2003-07-08 00:00:00.000	1750.98	140.0784	43.7745	1934.8329
51183	Price	Other	2003-07-08 00:00:00.000	1750.98	140.0784	43.7745	1934.8329
51184	Price	Other	2003-07-08 00:00:00.000	2394.97	191.5976	59.8743	2646.4419
51185	Price	Other	2003-07-08 00:00:00.000	776.33	62.1064	19.4083	857.8447
51187	Price	Other	2003-07-08 00:00:00.000	561.48	44.9184	14.037	620.4354

#### Question 4

List the products having DiscountPct less than equal to 0.45. Exclude products starting with R. Arrange the Product from Z to An order

Result Set Total Rows: 245

Products that were sold <.45 DiscountPct
Women's Tights, S
Women's Tights, M
Women's Tights, L
Women's Mountain Shorts, S
Women's Mountain Shorts, M
Women's Mountain Shorts, L
Water Bottle - 30 oz.
Touring-3000 Yellow, 62
Touring-3000 Yellow, 58
Touring-3000 Yellow, 54

#### Question 5

Find out all the Product Names which have any special character or number(0-9) within their name using Regular Expression.

Result Set Total Rows: 372

ProductName
All-Purpose Bike Stand
Bike Wash - Dissolver
Classic Vest, L
Classic Vest, M
Classic Vest, S
Cone-Shaped Race
Cup-Shaped Race
Decal 1
Decal 2
External Lock Washer 1

#### Question 6

Find out the Province which has the highest Tax Rate

Result Set Total Rows: 1

Province Name	TaxRate	Tax Name
France	19.60	France Output Tax

### Question 7

Display Total Sales for each Category for each Territory

Result Set Total Rows: 40

Location	Category	Revenue Generated
Australia	Accessories	162638.16
Australia	Bikes	9993875.01
Australia	Clothing	113175.75
Australia	Components	203651.31
Canada	Accessories	221505.20
Canada	Bikes	13114729.65
Canada	Clothing	432112.25
Canada	Components	2244470.02
Central	Accessories	46296.64
Central	Bikes	6620522.66

### Question 8

Find out Total Sales for employees having work experience as Less than 15 Years, Between 15 to 18 Years, Greater than 18 Years

Hint: Use Hire Date Column from HR Schema to Calculate work experience;

ResultSet Total Rows: 2

Results		Messages	
	Experience	Total Sales	Number of Employees
1	greater than 15 and less than 18	44294026.1344	73
2	greater than 18	NULL	217

### Question 9

List the Average Unit Sold for each category in the month of April, 2003 and May, 2003

ResultSet Total Rows: 4

Category Name	Unit Sold
Clothing	4
Bikes	2
Accessories	4
Components	2

### Question 10 a

a Find out those months of 2003 for which Products in Clothing have been sold less than Products in Bikes (OrderQty). Also, display the sales quantity for Clothing Category for those months.

**Result Set** **Total Rows: 7**

	Year	Month	ClothingSaleQTY	BikesSaleQTY
1	2003	1	984	1756
2	2003	2	1431	2916
3	2003	3	1130	1966
4	2003	4	1750	2200
5	2003	5	2551	3220
6	2003	6	2059	2238
7	2003	12	3983	4125

### Question 10 b

Break the Product Name upto 10 and display the broken and Actual Description of the products

**Result Set** **Total Rows:1752**

Product_Name_Broken	Description
HL Road Fr	Our lightest and best quality aluminum frame made from the newest alloy; it is welded and heat-treated for strength. Our innovative design results in maximum comfort and performance.
HL Road Fr	والأعلى وزناً الأخف الألومنيوم دراجتنا هيكل صناعة تم لا قد ومعالجته لحامه وتم الم توفرة، السبك أحدثك من، جودة أقصى الإبداع دعايت صممنا ويوفر. قوة له زيادة حرارياً والأداء الراحة درجات.
HL Road Fr	Notre cadre en aluminium plus léger et de qualité supérieure fabriqué à partir du tout dernier alliage ; cadre soudé et traité à chaud pour une meilleure résistance. Le résultat d'une conception innovante pour un confort et des performances maximum.
HL Road Fr	เฟรมอลูมิเนียมคุณภาพสูงสุดและน้ำหนักเบาที่สุด สร้างจากอัลลอยด์ชนิดใหม่ ได้รับการหล่อและให้ความร้อนเพื่อความแข็งแรง ด้วยนวัตกรรมการออกแบบ ทำให้มีความสบายและประสิทธิภาพสูงในเวลาเดียวกัน
HL Road Fr	עשויה שלנו ביותר והאיכותית הקלה האלומיניום מסגרת מרוחקת היא, חוזק להענקת; ביותר החדישה מהסגסוגת בנוחות ביטוי לידי בא שלנו החדשני העיצוב. בחום ומוקשחת מרביים ובביצועים.
HL Road Fr	重量最轻、质量最好的铝制车架采用最新的合金材质；经过焊接和热处理，坚固牢靠。我们创新的设计确保了最大程度的舒适和卓越的性能。

### Question 11

For above question, also display number of characters deleted for each Product Name

Result Set Total Rows: 1752

Broken_Product_Name	Description	No_of_characters_deleted
HL Road Fr	Our lightest and best quality aluminum frame made from the newest alloy; it is welded and heat-treated for strength. Our innovative design results in maximum comfort and performance.	15
HL Road Fr	الآل ومذ يوم ج ت نادر ا هيكل صناعة ت م ل قد أحدث من جودة، والأء لى وزننا الأخف ومعالجته لحامه وتم الم توفرة، ال سد بائك تصميما ووفرة. قوته لزيادة حراريا والأداء الراحة درجات أقصى الإبداع	15
HL Road Fr	Notre cadre en aluminium plus léger et de qualité supérieure fabriqué à partir du tout dernier alliage ; cadre soudé et traité à chaud pour une meilleure résistance. Le résultat d'une conception innovante pour un confort et des performances maximum.	15
HL Road Fr	เฟรมอลูมิเนียมคุณภาพสูงสุดและน้ำหนักเบาที่สุด สร้างจากอัลลอยด์ชนิดใหม่ ได้รับการหลอมและให้ความร้อนเพื่อความแข็งแรง ด้วยนวัตกรรมการออกแบบ ทำให้มีความสบายและประสิทธิภาพสูงในเวลาเดียวกัน	15
HL Road Fr	והאיכותית הקלה האלומיניום מסגרת החדשה מהסגסוגת עשויה שלנו ביותר מרוכת היא, חוזק להענקת; ביותר בא ושלנ החדשני העיצוב. בחום ומוקשחת מרביים ובביצועים בנוחות ביטוי לידי	15
HL Road Fr	重量最轻、质量最好的铝制车架采用最新的合金材质；经过焊接和热处理，坚固牢靠。我们创新的设计确保了最大程度的舒适和卓越的性能。	15

### Question 12

Find out total products sold by married employees aged between 40 to 50 in Qtr. 3 of 2003.

Result Set	Total Rows: 1
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Total Products Sold
5607

### Question 13

Find out the count of customers who have purchased products from all the categories

Result Set	Total Rows: 1
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	Count_Of_Customers
1	321

#### Question 14

Find out Total Sales Percentage for Bikes and Accessories categories in June 2004

Hint. Use Column "Line Total" for sales

**Result Set** Total Rows: 2

Category	Sales Total	Percent to Total
Bikes	4332056.734414	84.42
Accessories	103770.094716	2.02

#### Question 15

Find out Percentage Contribution to Total Sales for all categories in Qtr 2 of the calendar year 2003, rounded to Two decimal places. List the categories by their Percentage Contribution (decreasing)

Hint. Use Column "Line Total" for sales

**ResultSet** Total Rows: 4

	CategoryName	Sales
1	Bikes	84.020000
2	Components	13.300000
3	Clothing	2.290000
4	Accessories	0.390000

#### Question 16

List the category for which the difference of maximum and minimum unit sold is greatest in year 2003.

**Result Set** Total Rows: 1

Product Category	Maximum Products Sold	Minimum Products Sold	Difference Between Min and Max
Clothing	44	1	43

#### Question 17

List those subcategories from which products were sold in January 2003 and February 2004 with and without using INTERSECT for Clothing Category.

**ResultSet** Total Rows: 4

SubCategory Name
Caps
Gloves
Jerseys
Shorts

### Question 18

Find out the Product in each category having least average sales shares in 2003

### Result Set

Total Rows: 4

Product_Category	Product	Minimum_Average_Sales
Accessories	Patch Kit/8 Patches	2.548575
Bikes	Road-750 Black, 44	637.399960
Clothing	AWC Logo Cap	16.200373
Components	LL Road Seat/Saddle	27.120000

### Question 19a

Populate CustomProduct\_ID\_yourname table with first 25 ProductIDs from Product and SalesOrderDetail table.

Note: Create a table by name CustomProductID\_yourname to perform the DML operations

### Question 19 b

Add a column by name ProductName in CustomProduct\_ID\_yourname table. This column should contain the names of the products according to the ProductID column

Note: It is assumed that you have already created CustomProduct\_ID\_yourname table. Mentioned in above question

### Question 20

Update SalesOrderDetail\_yourname with OrderQty Less than 10 and OrderQty greater than 30 including of these limits

Note: Create a copy of SalesOrderDetail table, which should contains records as mentioned, to perform DML operations

### Question 21

22. Insert CategoryID, SubcategoryID, Category, SubCategory and Total Revenue Generated by each subcategory in year 2003, Total Revenue Generated by each Subcategory in Year 2004 into SalesDetails\_yourname.

Note: Create a new table with name as SalesDetails\_yourname to perform the DML operations. Notice the columns required.

### Question 22a



For all the employees create a salary column which is equal to sum of sales they have made. Add this column in Employee\_yourname table.

#### Question 22 b

For all the male Employees increase their current salary by 17% and for Female Employees by 20 % in Employee\_yourname table

Note: Create a copy of Employee table with name as Employee\_yourname to perform the DML Operation

#### Question 23

Remove all the special characters from product names.

Note: Create a copy of Product table to perform the DML operation

#### Question 24

Delete rows in multiple of 100 from SalesOrderHeader\_yourname. i.e. Delete 100th row, 200th Row, 300th Row, 400th row and so on.

Note: Create a copy of the SalesOrderHeader Table and name it as SalesOrderHeader\_yourname to perform DML Operation

#### Question 25

Delete rows from SalesOrderDetail\_yourname which are having duplicate ProductID.

Note: It is assumed that you have already created SalesOrderDetail\_yourname table.