

-- overview database

```
SELECT TOP 10 *  
FROM [Sales].[SalesOrderDetail]
```

100 %

Results Messages

| | SalesOrderID | SalesOrderDetailID | CarrierTrackingNumber | OrderQty | ProductID | SpecialOfferID | UnitPrice | UnitPriceDiscount | LineTotal | rowguid |
|---|--------------|--------------------|-----------------------|----------|-----------|----------------|-----------|-------------------|-------------|-----------------------|
| 1 | 43659 | 1 | 4911-403C-98 | 1 | 776 | 1 | 2024.994 | 0.00 | 2024.994000 | B207C96D-D9E6-402B-8 |
| 2 | 43659 | 2 | 4911-403C-98 | 3 | 777 | 1 | 2024.994 | 0.00 | 6074.982000 | 7ABB600D-1E77-41BE-9 |
| 3 | 43659 | 3 | 4911-403C-98 | 1 | 778 | 1 | 2024.994 | 0.00 | 2024.994000 | 475CF8C6-49F6-486E-B0 |
| 4 | 43659 | 4 | 4911-403C-98 | 1 | 771 | 1 | 2039.994 | 0.00 | 2039.994000 | 04C4DE91-5815-45D6-86 |
| 5 | 43659 | 5 | 4911-403C-98 | 1 | 772 | 1 | 2039.994 | 0.00 | 2039.994000 | 5A74C7D2-E641-438E-A |
| 6 | 43659 | 6 | 4911-403C-98 | 2 | 773 | 1 | 2039.994 | 0.00 | 4079.988000 | CE472532-A4C0-45BA-8 |
| 7 | 43659 | 7 | 4911-403C-98 | 1 | 774 | 1 | 2039.994 | 0.00 | 2039.994000 | 80667840-F962-4EE3-96 |
| 8 | 43659 | 8 | 4911-403C-98 | 3 | 714 | 1 | 28.8404 | 0.00 | 86.521200 | E9D54907-E7B7-4969-8C |

```
SELECT TOP 10 *  
FROM [Sales].[SalesOrderHeader]
```

Results Messages

| | SalesOrderID | RevisionNumber | OrderDate | DueDate | ShipDate | Status | OnlineOrderFlag | SalesOrderNumber | PurchaseOrderNumber |
|----|--------------|----------------|-------------------------|-------------------------|-------------------------|--------|-----------------|------------------|---------------------|
| 3 | 43661 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43661 | PO18473 |
| 4 | 43662 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43662 | PO18444 |
| 5 | 43663 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43663 | PO18009 |
| 6 | 43664 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43664 | PO16617 |
| 7 | 43665 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43665 | PO16588 |
| 8 | 43666 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43666 | PO16008 |
| 9 | 43667 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43667 | PO15428 |
| 10 | 43668 | 8 | 2011-05-31 00:00:00.000 | 2011-06-12 00:00:00.000 | 2011-06-07 00:00:00.000 | 5 | 0 | SO43668 | PO14732 |

```
SELECT TOP 10*  
FROM [Production].[ProductCostHistory]
```

<

| | ProductID | StartDate | EndDate | StandardCost | ModifiedDate |
|----|-----------|-------------------------|-------------------------|--------------|-------------------------|
| 3 | 707 | 2013-05-30 00:00:00.000 | NULL | 13.0863 | 2013-05-16 00:00:00.000 |
| 4 | 708 | 2011-05-31 00:00:00.000 | 2012-05-29 00:00:00.000 | 12.0278 | 2012-05-29 00:00:00.000 |
| 5 | 708 | 2012-05-30 00:00:00.000 | 2013-05-29 00:00:00.000 | 13.8782 | 2013-05-29 00:00:00.000 |
| 6 | 708 | 2013-05-30 00:00:00.000 | NULL | 13.0863 | 2013-05-16 00:00:00.000 |
| 7 | 709 | 2011-05-31 00:00:00.000 | 2012-05-29 00:00:00.000 | 3.3963 | 2012-05-29 00:00:00.000 |
| 8 | 710 | 2011-05-31 00:00:00.000 | 2012-05-29 00:00:00.000 | 3.3963 | 2012-05-29 00:00:00.000 |
| 9 | 711 | 2011-05-31 00:00:00.000 | 2012-05-29 00:00:00.000 | 12.0278 | 2012-05-29 00:00:00.000 |
| 10 | 711 | 2012-05-30 00:00:00.000 | 2013-05-29 00:00:00.000 | 13.8782 | 2013-05-29 00:00:00.000 |

```
-- create a temp table #SALE
```

```
SELECT
```

```
    saleD.SalesOrderID,
    saleD.SalesOrderDetailID,
    saleD.OrderQty,saleD.ProductID,
    saleD.UnitPrice,saleH.OrderDate,
    saleH.TerritoryID,
    saleH.CustomerID,
    saleH.SalesPersonID,
    c.StandardCost
```

```
    INTO #SALE
```

```
FROM [Sales].[SalesOrderDetail] as saleD
JOIN [Sales].[SalesOrderHeader] as saleH
    ON saleD.SalesOrderID = saleH.SalesOrderID
LEFT JOIN [Production].[ProductCostHistory] as c
    ON saleD.ProductID=c.ProductID
    AND saleH.OrderDate >=c.StartDate
    AND saleH.OrderDate <= COALESCE(c.EndDate,GETDATE());
```

```
SELECT TOP 10 *
FROM #SALE
```

| | SalesOrderID | SalesOrderDetailID | OrderQty | ProductID | UnitPrice | OrderDate | TerritoryID | CustomerID | SalesPersonID | StandardCost |
|----|--------------|--------------------|----------|-----------|-----------|-------------------------|-------------|------------|---------------|--------------|
| 1 | 43659 | 1 | 1 | 776 | 2024.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1898.0944 |
| 2 | 43659 | 2 | 3 | 777 | 2024.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1898.0944 |
| 3 | 43659 | 3 | 1 | 778 | 2024.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1898.0944 |
| 4 | 43659 | 4 | 1 | 771 | 2039.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1912.1544 |
| 5 | 43659 | 5 | 1 | 772 | 2039.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1912.1544 |
| 6 | 43659 | 6 | 2 | 773 | 2039.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1912.1544 |
| 7 | 43659 | 7 | 1 | 774 | 2039.994 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 1912.1544 |
| 8 | 43659 | 8 | 3 | 714 | 28.8404 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 31.7244 |
| 9 | 43659 | 9 | 1 | 716 | 28.8404 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 31.7244 |
| 10 | 43659 | 10 | 6 | 709 | 5.70 | 2011-05-31 00:00:00.000 | 5 | 29825 | 279 | 3.3963 |

```
-- check missing value
```

```
SELECT count(*) - Count(SalesOrderID),
count(*) - Count(SalesOrderDetailID),
count(*) - Count(OrderQty),
count(*) - Count(OrderDate),
count(*) - Count(ProductID),
count(*) - Count(UnitPrice),
count(*) - Count(TerritoryID),
count(*) - Count(CustomerID),
count(*) - Count(SalesOrderID),
```

```
count(*) - Count(StandardCost) AS standardCostmissing
FROM #SALE;
```

100 %

Results Messages

| | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | standardCostmissing |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 64 |

-- show the missing value

```
SELECT *
FROM #SALE
WHERE StandardCost is NULL
ORDER BY ProductID;
```

100 %

Results Messages

| | SalesOrderID | SalesOrderDetailID | OrderQty | ProductID | UnitPrice | OrderDate | TerritoryID | CustomerID | SalesPersonID | StandardCost |
|----|--------------|--------------------|----------|-----------|-----------|-------------------------|-------------|------------|---------------|--------------|
| 1 | 55320 | 55997 | 1 | 726 | 249.5428 | 2013-08-30 00:00:00.000 | 8 | 29837 | 288 | NULL |
| 2 | 67202 | 95166 | 1 | 726 | 249.5428 | 2014-02-28 00:00:00.000 | 8 | 29745 | 288 | NULL |
| 3 | 51750 | 40403 | 2 | 729 | 249.5428 | 2013-06-30 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 4 | 51695 | 39239 | 1 | 730 | 249.5428 | 2013-06-30 00:00:00.000 | 8 | 29723 | 288 | NULL |
| 5 | 69310 | 102016 | 1 | 730 | 249.5428 | 2014-03-30 00:00:00.000 | 8 | 29723 | 288 | NULL |
| 6 | 69309 | 102008 | 5 | 760 | 563.7528 | 2014-03-30 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 7 | 67203 | 95169 | 1 | 760 | 563.7528 | 2014-02-28 00:00:00.000 | 8 | 29837 | 287 | NULL |
| 8 | 63166 | 82211 | 2 | 760 | 563.7528 | 2013-12-31 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 9 | 51750 | 40398 | 3 | 760 | 563.7528 | 2013-06-30 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 10 | 51750 | 40401 | 3 | 761 | 563.7528 | 2013-06-30 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 11 | 51125 | 36695 | 2 | 761 | 563.7528 | 2013-05-30 00:00:00.000 | 8 | 29745 | 288 | NULL |
| 12 | 57066 | 61354 | 2 | 761 | 563.7528 | 2013-09-30 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 13 | 63166 | 82209 | 1 | 761 | 563.7528 | 2013-12-31 00:00:00.000 | 8 | 29586 | 288 | NULL |
| 14 | 69309 | 102012 | 2 | 761 | 563.7528 | 2014-03-30 00:00:00.000 | 8 | 29586 | 288 | NULL |

-- The reason why StandardCost return to NULL for some rows is in the ProductCostHistory the EndDate is less than the OrderDate in SaleHeader table.

-- So the solution is create a table called MaxCost to get the lasted cost for each ProductID and after that join into the #SALE table

-- correct the null value

-- Create a table with the last price for each productid

with lastchange AS

```
(SELECT
    ProductID, MAX(ModifiedDate) AS lastchangedate
FROM [Production].[ProductCostHistory]
GROUP BY ProductID)
```

```
SELECT l.ProductID, p.StandardCost

INTO #MaxCost

FROM [Production].[ProductCostHistory] as p
JOIN lastchange as l
ON     l.ProductID = p.ProductID
AND    l.lastchangedate = p.ModifiedDate
ORDER BY l.ProductID
```

```
SELECT TOP 10 *
FROM #MaxCost
```

| Results Messages | | |
|------------------|-----------|--------------|
| | ProductID | StandardCost |
| 1 | 999 | 343.6496 |
| 2 | 998 | 343.6496 |
| 3 | 997 | 343.6496 |
| 4 | 996 | 53.9416 |
| 5 | 995 | 44.9506 |
| 6 | 994 | 23.9716 |
| 7 | 993 | 294.5797 |
| 8 | 992 | 294.5797 |
| 9 | 991 | 294.5797 |
| 10 | 990 | 294.5797 |

```
-- create #SALEFINAL table hen fix teh null value of #SALE table
```

```
SELECT
    SalesOrderID,
    SalesOrderDetailID,
    OrderQty,
    #SALE.ProductID,
    UnitPrice,
    OrderDate,
    TerritoryID,
    CustomerID,
    SalesPersonID,
```

```

        coalesce(#SALE.StandardCost,#MaxCost.StandardCost) AS Cost
INTO #SALEFINAL
FROM #SALE
JOIN #MaxCost
ON #SALE.ProductID = #MaxCost.ProductID;

-- show first 100 rows of SALEFINAL

-- Check the missing value of #SALEFINAL
SELECT count(*) - Count(SalesOrderID),
count(*) - Count(SalesOrderDetailID),
count(*) - Count(OrderQty),
count(*) - Count(OrderDate),
count(*) - Count(ProductID),
count(*) - Count(UnitPrice),
count(*) - Count(TerritoryID),
count(*) - Count(CustomerID),
count(*) - Count(SalesOrderID),
count(*) - Count(Cost)
FROM #SALEFINAL;

```

100 %

Results Messages

| | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) | (No column name) |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

```

-- checking the duplicate data

```

```

SELECT SalesOrderID,SalesOrderDetailID
FROM #SALEFINAL
GROUP BY SalesOrderID,SalesOrderDetailID
HAVING COUNT(*) >1

SELECT SalesOrderID,SalesOrderDetailID,OrderQty
FROM #SALEFINAL
GROUP BY SalesOrderID,SalesOrderDetailID,OrderQty
HAVING COUNT(*) >1

SELECT SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate
FROM #SALEFINAL
GROUP BY SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate
HAVING COUNT(*) >1

SELECT SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID
FROM #SALEFINAL
GROUP BY SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID
HAVING COUNT(*) >1

SELECT SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice
FROM #SALEFINAL

```

```

GROUP BY SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice
HAVING COUNT(*) >1

```

```

SELECT SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID
FROM #SALEFINAL
GROUP BY
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID
HAVING COUNT(*) >1

```

```

SELECT
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID,CustomerID
FROM #SALEFINAL
GROUP BY
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID,CustomerID
HAVING COUNT(*) >1

```

```

SELECT
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID,CustomerID,SalesOrderID
FROM #SALEFINAL
GROUP BY
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID,CustomerID,SalesOrderID
HAVING COUNT(*) >1

```

```

SELECT
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID,CustomerID,SalesOrderID,Cost
FROM #SALEFINAL
GROUP BY
SalesOrderID,SalesOrderDetailID,OrderQty,OrderDate,ProductID,UnitPrice,TerritoryID,CustomerID,SalesOrderID,Cost
HAVING COUNT(*) >1

```

| Results | | | | | | | | | |
|--------------|--------------------|----------|-----------|-----------|-----------|-------------|------------|--------------|------|
| SalesOrderID | SalesOrderDetailID | OrderQty | OrderDate | ProductID | UnitPrice | TerritoryID | CustomerID | SalesOrderID | Cost |

```
-- cheking the invalid data
```

```

SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(SalesOrderID) = 0;

```

```
SELECT *
```

```
FROM #SALEFINAL
WHERE ISNUMERIC(SalesOrderDetailID) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(OrderQty) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISDATE(OrderDate) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(ProductID) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(UnitPrice) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(TerritoryID) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(CustomerID) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(SalesOrderID) = 0;
```

```
SELECT *
FROM #SALEFINAL
WHERE ISNUMERIC(Cost) = 0;
```

100 %

Results Messages

| SalesOrderID | SalesOrderDetailID | OrderQty | ProductID | UnitPrice | OrderDate | TerritoryID | CustomerID | SalesPersonID | Cost |
|--------------|--------------------|----------|-----------|-----------|-----------|-------------|------------|---------------|------|
|--------------|--------------------|----------|-----------|-----------|-----------|-------------|------------|---------------|------|

```
-- create Product table
SELECT
    pro.ProductID,
    subca.ProductCategoryID,
    subca.ProductSubcategoryID,
    proca.Name as ProductCategoryName,
    subca.Name AS ProductSubCategory,
    pro.Name AS ProductName

    INTO #PRODUCT
```

```

FROM [Production].[ProductCategory] as proca
JOIN [Production].[ProductSubcategory] as subca
ON proca.ProductCategoryID=subca.ProductCategoryID
JOIN [Production].[Product] as pro
ON pro.ProductSubcategoryID = subca.ProductSubcategoryID

```

```

SELECT *
FROM #PRODUCT

```

100 %

Results Messages

| | ProductID | ProductCategoryID | ProductSubcategoryID | ProductCategoryName | ProductSubCategory | ProductName |
|----|-----------|-------------------|----------------------|---------------------|--------------------|-----------------------------|
| 1 | 680 | 2 | 14 | Components | Road Frames | HL Road Frame - Black, 58 |
| 2 | 706 | 2 | 14 | Components | Road Frames | HL Road Frame - Red, 58 |
| 3 | 707 | 4 | 31 | Accessories | Helmets | Sport-100 Helmet, Red |
| 4 | 708 | 4 | 31 | Accessories | Helmets | Sport-100 Helmet, Black |
| 5 | 709 | 3 | 23 | Clothing | Socks | Mountain Bike Socks, M |
| 6 | 710 | 3 | 23 | Clothing | Socks | Mountain Bike Socks, L |
| 7 | 711 | 4 | 31 | Accessories | Helmets | Sport-100 Helmet, Blue |
| 8 | 712 | 3 | 19 | Clothing | Caps | AWC Logo Cap |
| 9 | 713 | 3 | 21 | Clothing | Jerseys | Long-Sleeve Logo Jersey, S |
| 10 | 714 | 3 | 21 | Clothing | Jerseys | Long-Sleeve Logo Jersey, M |
| 11 | 715 | 3 | 21 | Clothing | Jerseys | Long-Sleeve Logo Jersey, L |
| 12 | 716 | 3 | 21 | Clothing | Jerseys | Long-Sleeve Logo Jersey, XL |
| 13 | 717 | 2 | 14 | Components | Road Frames | HL Road Frame - Red, 62 |
| 14 | 718 | 2 | 14 | Components | Road Frames | HL Road Frame - Red, 44 |

Query executed successfully.

```

SELECT *
INTO #TERRITORY
FROM [Sales].[SalesTerritory]

```

```

SELECT *
FROM #TERRITORY

```

100 %

Results Messages

| | TerritoryID | Name | CountryRegionCode | Group | SalesYTD | SalesLastYear | CostYTD | CostLastYear | rowguid |
|----|-------------|----------------|-------------------|---------------|---------------|---------------|---------|--------------|--------------------------------------|
| 1 | 1 | Northwest | US | North America | 7887186.7882 | 3298694.4938 | 0.00 | 0.00 | 43689A10-E30B-497F-B0DE-11DE20267FF7 |
| 2 | 2 | Northeast | US | North America | 2402176.8476 | 3607148.9371 | 0.00 | 0.00 | 00FB7309-96CC-49E2-8363-0A1BA72486F2 |
| 3 | 3 | Central | US | North America | 3072175.118 | 3205014.0767 | 0.00 | 0.00 | DF6E7FD8-1A8D-468C-B103-ED8ADDB452C |
| 4 | 4 | Southwest | US | North America | 10510853.8739 | 5366575.7098 | 0.00 | 0.00 | DC3E9EA0-7950-4431-9428-99DBCBC33865 |
| 5 | 5 | Southeast | US | North America | 2538667.2515 | 3925071.4318 | 0.00 | 0.00 | 6DC4165A-5E4C-42D2-809D-4344E0AC75E7 |
| 6 | 6 | Canada | CA | North America | 6771829.1376 | 5693988.86 | 0.00 | 0.00 | 06B4AF8A-1639-476E-9266-110461D66B00 |
| 7 | 7 | France | FR | Europe | 4772398.3078 | 2396539.7601 | 0.00 | 0.00 | BF806804-9B4C-4B07-9D19-706F2E689552 |
| 8 | 8 | Germany | DE | Europe | 3805202.3478 | 1307949.7917 | 0.00 | 0.00 | 6D2450DB-8159-414F-A917-E73EE91C38A9 |
| 9 | 9 | Australia | AU | Pacific | 5977814.9154 | 2278548.9776 | 0.00 | 0.00 | 602E612E-DFE9-41D9-B894-27E489747885 |
| 10 | 10 | United Kingdom | GB | Europe | 5012905.3656 | 1635823.3967 | 0.00 | 0.00 | 05FC7E1F-2DEA-414E-9ECD-09D150516FB5 |

-- 1. calculate total revenue , cost, profit

```
SELECT
    SUM(UnitPrice*OrderQty) as Total_Revenue,
    SUM(Cost * OrderQty) as Total_Cost,
    (SUM(UnitPrice*OrderQty) - SUM(Cost * OrderQty)) AS Total_Profit
FROM #SALEFINAL ;
```

100 %

| Results Messages | | | |
|------------------|----------------|---------------|---------------|
| | Total_Revenue | Total_Cost | Total_Profit |
| 1 | 110373889.3134 | 97288600.8008 | 13085288.5126 |

- 2. top 5 product have a highest orders ?

```
SELECT top 5 p.ProductName, COUNT(distinct s.SalesOrderID) as Total_Order
FROM #SALE as s
JOIN #PRODUCT as p
ON s.ProductID = p.ProductID
GROUP BY p.ProductName
ORDER BY Total_Order DESC;
```

100 %

| Results Messages | | |
|------------------|------------------------|-------------|
| | ProductName | Total_Order |
| 1 | Water Bottle - 30 oz. | 4688 |
| 2 | AWC Logo Cap | 3382 |
| 3 | Patch Kit/8 Patches | 3354 |
| 4 | Mountain Tire Tube | 3095 |
| 5 | Sport-100 Helmet, Blue | 3090 |

--3. Region has highest revenue ?

```
SELECT top 5 t.Name AS Region, SUM(s.UnitPrice*s.OrderQty) AS ProductRevenue
FROM #SALEFINAL as s
JOIN #TERRITORY as t
ON s.TerritoryID=t.TerritoryID
GROUP BY t.Name
ORDER BY ProductRevenue DESC;
```

100 %

| Results | | |
|---------|-----------|----------------|
| | Region | ProductRevenue |
| 1 | Southwest | 24316177.792 |
| 2 | Canada | 16441125.0131 |
| 3 | Northwest | 16172929.4904 |
| 4 | Australia | 10683870.0063 |
| 5 | Central | 7935852.4391 |

-- 4.Top 5 Product have highest orders

```
SELECT TOP 5 s.ProductID,p.ProductName,COUNT(*) AS NumberOfOrders
FROM #SALEFINAL as s
JOIN #PRODUCT as p
ON s.ProductID = p.ProductID
GROUP BY s.ProductID,p.ProductName
ORDER BY COUNT(*) DESC;
```

100 %

| Results | | | |
|---------|-----------|------------------------|----------------|
| | ProductID | ProductName | NumberOfOrders |
| 1 | 870 | Water Bottle - 30 oz. | 4688 |
| 2 | 712 | AWC Logo Cap | 3382 |
| 3 | 873 | Patch Kit/8 Patches | 3354 |
| 4 | 921 | Mountain Tire Tube | 3095 |
| 5 | 711 | Sport-100 Helmet, Blue | 3090 |

```
-- 6. Show the profit margin of each Product Category
SELECT p.ProductCategoryName, SUM(s.UnitPrice*s.OrderQty) AS
Revenue, SUM(s.OrderQty*s.Cost) AS Cost, (SUM(s.UnitPrice*s.OrderQty)-
SUM(s.OrderQty*s.Cost)) / SUM(s.UnitPrice*s.OrderQty) AS ProfitMargin
FROM #SALEFINAL as s
JOIN #PRODUCT as p
ON s.ProductID = p.ProductID
GROUP BY p.ProductCategoryName;
```

100 %

| Results | | Messages | | |
|---------|---------------------|---------------|---------------|--------------|
| | ProductCategoryName | Revenue | Cost | ProfitMargin |
| 1 | Accessories | 1278760.9125 | 637601.0385 | 0.5013 |
| 2 | Bikes | 95145813.3519 | 84131887.7555 | 0.1157 |
| 3 | Clothing | 2141507.0245 | 1750636.2931 | 0.1825 |
| 4 | Components | 11807808.0245 | 10768475.7137 | 0.088 |